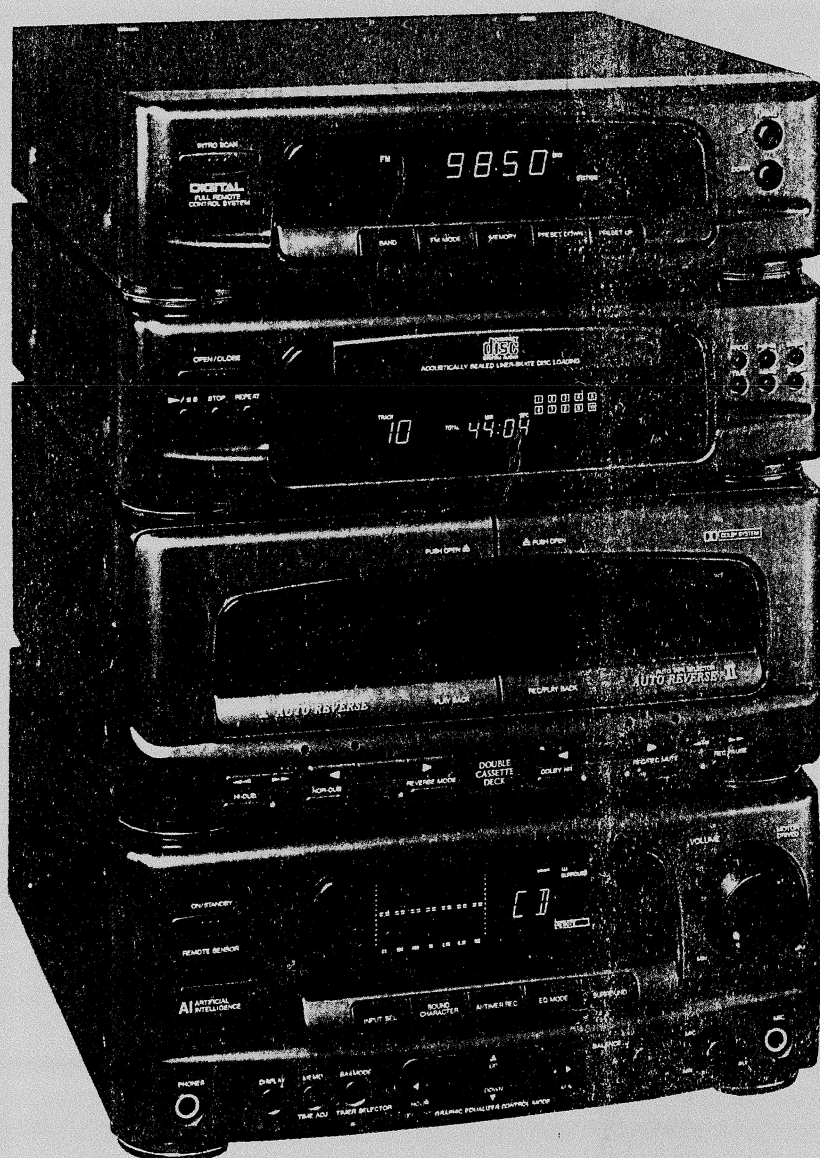


Serviceanweisung

Service manual

MS C 286

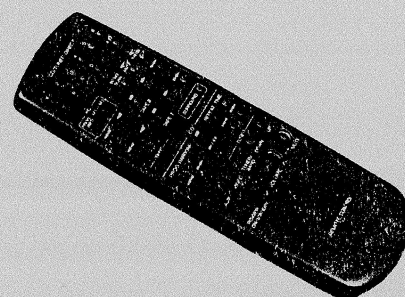


AT

CD

DC

AET

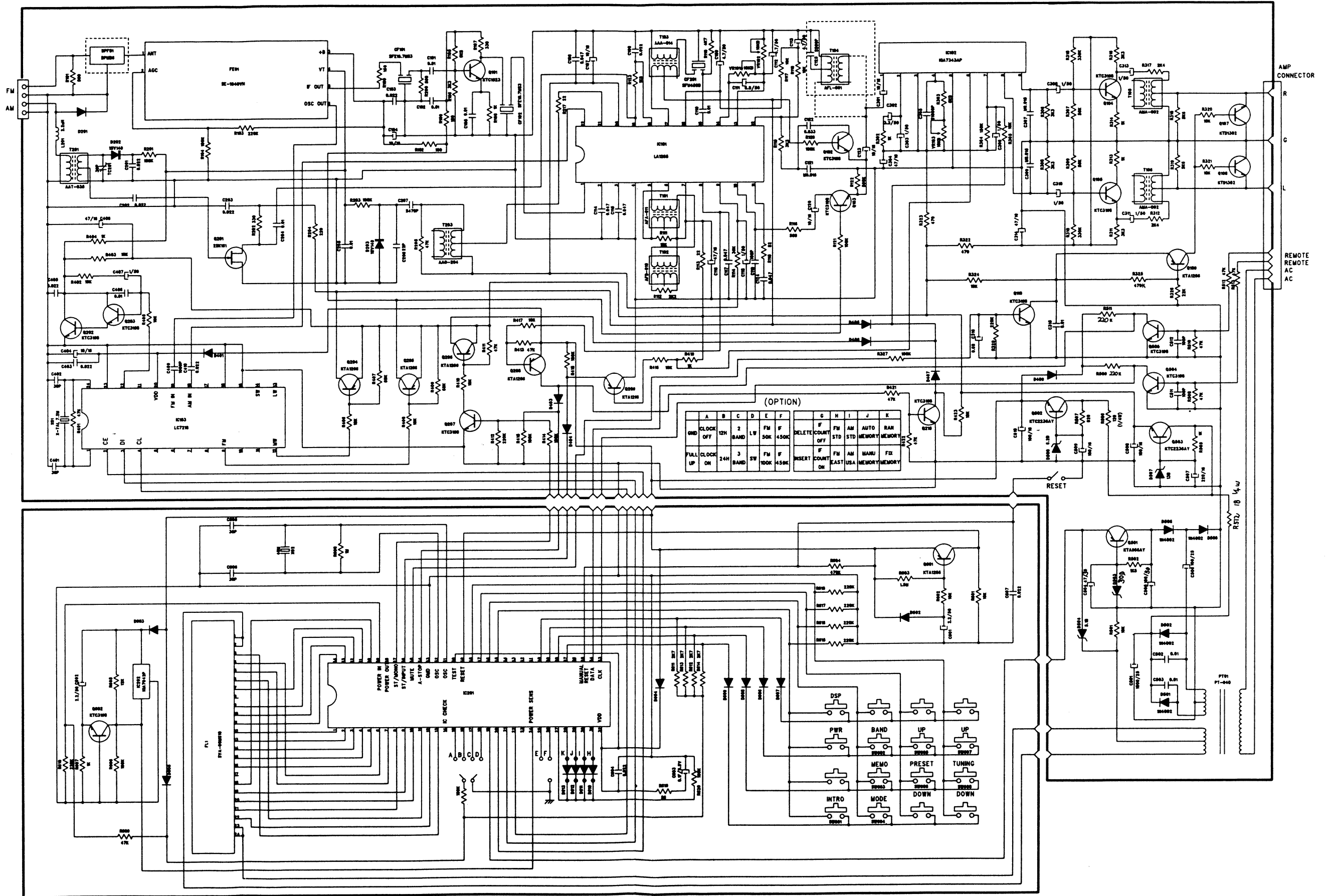


Diese Service-Unterlage wurde ausschließlich für autorisiertes Fachpersonal erstellt. Für Eingriffe durch nicht autorisierte Personen übernimmt der Hersteller keine Haftung.

This service manual was only made for authorized specialists. For interventions by not authorized persons producer doesn't take possession of liability.

Schaltbild Tuner AT

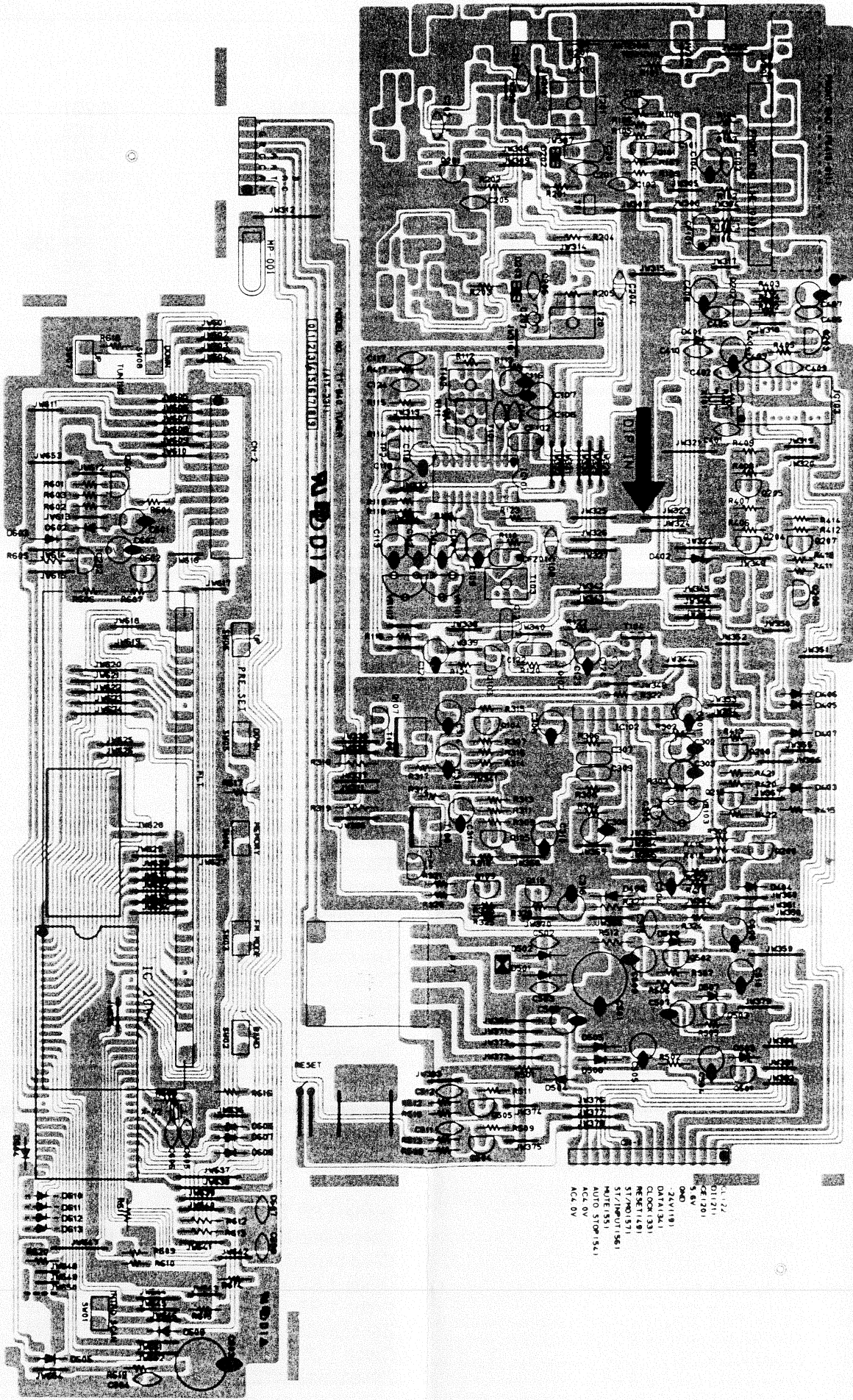
Schematic diagram tuner AT



Ersatzteilliste elektrisch AT
Spare parts list electrical AT

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
58 442 00	Bedienteil-/Displayplatine	Front PCB	7	
58 443 00	Grundplatine Tuner	Main PCB	8	
38 439 00	IC LA 1265	IC LA 1265	IC 101	B 4
58 444 00	IC KIA 7343 S	IC KIA 7343 S	IC 102	A 7
58 445 00	IC LC 7218	IC LC 7218	IC 103	A 5
58 446 00	IC HD 614081 S65	IC HD 614081 S65	IC 201	C 1
58 447 00	IC KIA 7042 P/F	IC KIA 7042 P/F	IC 202	A 4
65 238 00	Transistor KTC 1923 Y	Transistor KTC 1923 Y	Q 101	A 2
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 102-5,110	A 3
58 448 00	Transistor KTD 1302	Transistor KTD 1302	Q 107,108	A 3
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 109	A 5
65 239 00	Transistor KTK 161 GR	Transistor KTK 161 GR	Q 201	A 3
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 202,3,7	A 3
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 204-6,8,9	A 5
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 210,504,5	A 3
57 323 00	Transistor KTA 1273 Y	Transistor KTA 1273 Y	Q 501	A 6
58 449 00	Transistor KTA 3205 Y	Transistor KTA 3205 Y	Q 502,503	A 3
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 601	A 5
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 602	A 3
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 201	A 2
65 242 00	Diode 1 SV 149	Diode 1 SV 149	D 202,203	A 7
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 401-408	A 2
03 211 00	Diode 1 N 4004	Diode 1 N 4004	D 501,502	A 4
40 370 00	Zenerdiode MTZ 30	Zenerdiode MTZ 30	D 503	A 2
48 278 00	Zenerdiode MTZ 5,1	Zenerdiode MTZ 5.1	D 504	A 1
03 211 00	Diode 1 N 4004	Diode 1 N 4004	D 505,506	A 4
37 758 00	Zenerdiode MTZ 13	Zenerdiode MTZ 13	D 507	A 1
40 679 00	Zenerdiode MTZ 6,2	Zenerdiode MTZ 6.2	D 508	A 1
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 602-609	A 2
58 450 00	Elko spezial 0,1 F/5,5 V	Cap E/DO 0.1 F/5.5 V	C 603	A 4
70 187 00	Quarz 7,2 MHz	Crystal 7.2 MHz	X 01	B 2
37 079 00	Keramikschwingkreis CSA 4 MHz	Resonator CSA 4 MHz	X 02	A 9
38 805 00	Keramikfilter SFE 10,7 MJA10H-FTZ	Filter ceramic SFE 10.7	CF 101,2	A 7
65 243 00	Keramikfilter SFU 450 B	Filter ceramic SFU 450 B	CF 201	A 3
58 451 00	FM Übertrager AFA011	IFT FM AFA011	T 101	A 4
58 452 00	FM Übertrager DET AFA010	IFT FM DET AFA010	T 102	A 4
58 453 00	FM Übertrager AFA014	IFT FM AFA014	T 103	A 4
58 454 00	Spule AFL002	Coil AFL 002	T 104	A 4
58 455 00	FM MPX Filterspule AMA002 19 kHz	Coil FM MPX filter	T 105,6	A 4
58 456 00	AM Antennenspule AAT035	Coil AM ant AAT035	T 201	A 4
58 457 00	AM Oszillatorspule AAO24	Coil AM osc AAO24	T 202	A 4
34 641 00	Trimpoti 4,7 kOhm	SFR 4.7 kOhm	VR 101	A 3
29 622 00	Trimpoti 22 kOhm	SFR 22 kOhm	VR 102	A 3
37 443 00	Trimpoti 10 kOhm	SFR 10 kOhm	VR 103	A 3
58 458 00	Trafo A41-102L-0	Voltage trans A41-102L-0	PT 1	B 3
58 459 00	FM Tuner FTH4-560V	Front end FTH4-560V	FE 1	C 1
70 194 00	Taster SKHV 10910	Tact switch SKHV 10910	SW 1-8	A 3
58 460 00	LCD Display Tuner SVA-8MS10	Display tuner SVA-8MS10	FL 1	D 1
58 461 00	Anschlussbuchse Antenne	Terminal ant AK 1/2-1058 A	AT 1	A 4
58 462 00	Verbindungskabel AT-AET (7 polig)	Wire assembly UL 1077	AT-AET	B 4

Platinendarstellung Tuner AT
Tuner P.C.B. diagrams AT



Ersatzteilliste elektrisch AET
Spare parts list electrical AET

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
58 504 00	Gundplatine	Amp main PCB		
58 505 00	Bedienteil-/Displayplatine	Amp front PCB		
58 506 00	IC STK 4172 II	IC STK 4172 II	IC 201	D 1
48 365 00	IC LA 4282	IC LA 4282	IC 202	C 1
58 507 00	IC KA 4558 C	IC KA 4558 C	IC 203	A 5
58 508 00	IC LC 7822	IC LC 7882	IC 301	B 6
21 643 00	IC AN 6554	IC AN 6554	IC 302	B 5
58 509 00	IC NJU 7305	IC NJU 7305	IC 303	C 1
58 510 00	IC M 5229 P	IC M 5229 P	IC 304,305	B 1
58 507 00	IC KA 4558 C	IC KA 4558 C	IC 306	A 5
58 511 00	IC NJM 4558 M	IC NJM 4558 M	IC 307	A 3
58 474 00	IC KA 4558 S	IC KA 4558 S	IC 401	A 5
58 512 00	IC M 5233 L	IC M 5233 L	IC 402	A 5
58 513 00	IC M 5019 P	IC M 5019 P	IC 403	D 5
58 514 00	IC KM 4164 B-15	IC KM 4164 B-15	IC 404	C 1
58 507 00	IC KA 4558 C	IC KA 4558 C	IC 501-504	A 5
58 515 00	IC KIA 6276 S	IC KIA 6276 S	IC 601	A 6
58 507 00	IC KA 4558 C	IC KA 4558 C	IC 701	A 5
58 516 00	IC HD 404719 A36FS	IC HD 404719 A36FS	IC 801	D 3
58 447 00	IC KIA 7042 P/F	IC KIA 7042 P/F	IC 802	A 4
58 517 00	IC XR 1091	IC XR 1091	IC 804	C 0
58 518 00	IC KA 7815 C	IC KA 7815 C	IC 901	A 4
58 519 00	IC MC 7915	IC MC 7915	IC 902	A 4
66 697 00	IC BA 6208	IC BA 6208	IC 903	B 3
58 520 00	IC KRM 50M2 IR-Empfänger	IC KRM 50M2	Z 801	A 9
58 448 00	Transistor KTD 1302	Transistor KTD 1302	Q 201-204	A 3
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 205,8,9	A 5
58 521 00	Transistor KTC 3200 GR	Transistor KTC 3200 GR	Q 206	A 3
58 522 00	Transistor KTA 1268 GR	Transistor KTA 1268 GR	Q 207	A 3
32 762 00	Transistor DTC 114 ES	Transistor DTC 114 ES	Q 210	A 6
58 523 00	Transistor KTA 1271 Y	Transistor KTA 1271 Y	Q 211	A 3
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 212	A 3
58 448 00	Transistor KTD 1302	Transistor KTD 1302	Q 301	A 3
32 762 00	Transistor DTC 114 ES	Transistor DTC 114 ES	Q 303	A 6
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 304	A 3
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 601-801	A 3
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 802	A 5
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 803,804	A 3
58 522 00	Transistor KTA 1268 GR	Transistor KTA 1268 GR	Q 901	A 3
65 237 00	Transistor KTD 2058 GR	Transistor KTD 2058 GR	Q 902	A 5
26 359 00	Transistor KTC 2120 Y	Transistor KTC 2120 Y	Q 903	A 3
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 904,905	A 3
32 762 00	Transistor DTC 114 ES	Transistor DTC 114 ES	Q 907,908	A 6
37 406 00	Transistor DTC 124 ES	Transistor DTC 124 ES	Q 909,910	A 3
26 359 00	Transistor KTC 2120 Y	Transistor KTC 2120 Y	Q 911	A 3
26 794 00	Transistor 2 SC 2062 C	Transistor 2 SC 2062 C	Q 912	A 4
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 914	A 3
58 524 00	Thermistor KT 5D54E-C0247	Thermistor KT 5D54E-C0247	Z 905	A 4
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 201-203	A 2
37 757 00	Zenerdiode MTZ 7,5	Zenerdiode MTZ 7.5	D 301,302	A 7
34 942 00	Zenerdiode MTZ 5,6	Zenerdiode MTZ 5.6	D 302,601	A 3
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 402	A 2
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 801-812	A 2
34 942 00	Zenerdiode MTZ 5,6	Zenerdiode MTZ 5.6	D 813,814	A 3
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 815-819	A 2
34 989 00	Zenerdiode MTZ 6,8	Zenerdiode MTZ 6.8	D 821	A 2

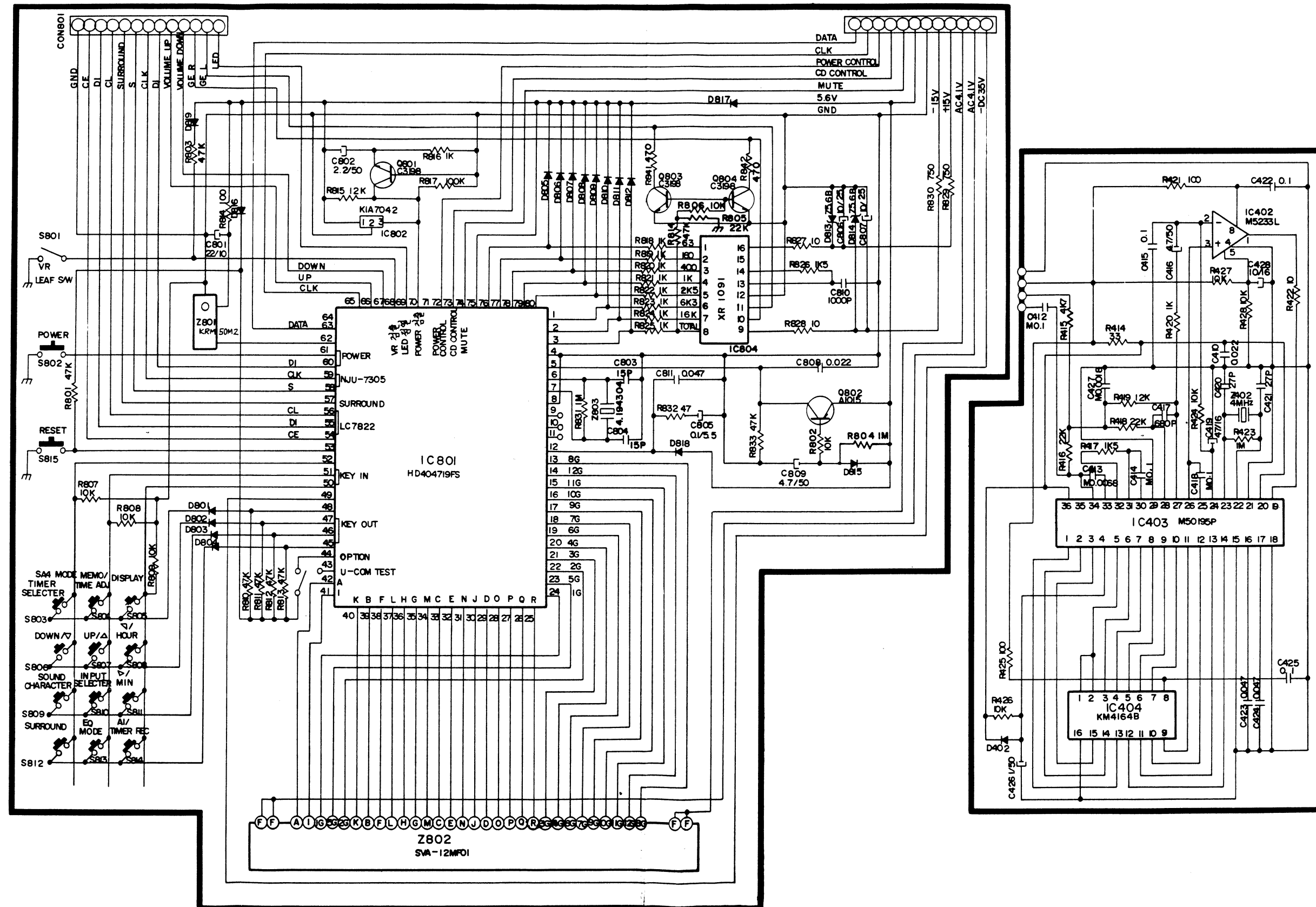
Ersatzteilliste elektrisch AET
Spare parts list electrical AET

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
03 211 00	Diode 1 N 4004	Diode 1 N 4004	D 901-904	A 4
40 370 00	Zenerdiode MTZ 30	Zenerdiode MTZ 30	D 905	A 2
34 942 00	Zenerdiode MTZ 5,6	Zenerdiode MTZ 5.6	D 906	A 3
40 680 00	Zenerdiode MTZ 12	Zenerdiode MTZ 12	D 907	A 1
40 679 00	Zenerdiode MTZ 6,2	Zenerdiode MTZ 6.2	D 908	A 1
03 211 00	Diode 1 N 4004	Diode 1 N 4004	D 909	A 4
58 525 00	Diode 1 N 5402 L	Diode 1 N 5402 L	D 914-917	A 2
03 211 00	Diode 1 N 4004	Diode 1 N 4004	D 919,921	A 4
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 920	A 2
58 526 00	LED SLC-22UR-5	LED SLC-22UR-5	LD 901	A 5
58 527 00	Widerstand 3,3 kOhm/0,5 W	Res 3.3 kOhm/0,5 W	R 213-216	A 3
58 528 00	Zement Widerstand 0,22 kOhm/2 W	Res cement 0,22 kOhm/2 W	R 217,218	A 4
65 128 00	Metox 10 Ohm/1 W	Metal oxide res 10 Ohm/1 W	R 223,224	A 2
65 128 00	Metox 10 Ohm/1 W	Metal oxide res 10 Ohm/1 W	R 227,228	A 2
65 256 00	Metox 1 kOhm/1 W	Metal oxide res 1 kOhm/1 W	R 241,242	A 1
60 048 00	Metox 1,5 kOhm/1 W	Metal oxide res 1,5 kOhm/1 W	R 248	A 1
58 527 00	Widerstand 3,3 kOhm/0,5 W	Resistor 3.3 kOhm/0,5 W	R 901,902	A 3
65 258 00	Metox 150 Ohm/2 W	Metal oxide res 150 Ohm/2 W	R 914,915	A 7
58 529 00	Widerstand Netzwerk 1 MOhm x 7	Network resistor 1 MOhm x 7	Z 305,306	A 6
58 530 00	Drehwiderstand 100 kOhm x 2 Volume mit Mot	VR 100 kOhm x 2 Vol w. motor	VR 301	C 2
58 531 00	Drehwiderstand 100 kOhm Balance	VR 100 kOhm Balance	VR 302	A 7
58 532 00	Drehwiderstand 50 kOhm Micro	VR 50 kOhm Micro	VR 401	A 7
37 079 00	Keramikschwingkreis CSA 4,00 MHz	Resonator CSA 4.00 MHz	Z 402	A 9
58 533 00	Quarz 4,194304 MHz	Crystal 4.194304 MHz	Z 803	A 6
70 194 00	Taster SKHV 10910	Tact switch SKHV 10910	S divers	A 3
58 534 00	Mikroschalter MSW-1731 CVC Volume	Leaf switch MSW-1731 CVC	Z 801	A 5
58 535 00	Relais JW1AFSN-DC12V	Relay JW1AFSN-DC12V	Z 901	A 9
58 536 00	Relais HR-703V DC12V	Relais HR-703V DC12V	Z 909	B 0
58 537 00	LCD Display Amplifier SVA-12MF01	Display amp SVA-12MF01	Z 802	D 7
58 538 00	Anschlussbuchse Chinch 6-fach	Socket RCA 6P	J 301	A 9
58 539 00	Anschluss Phono GND	Socket phono ground		A 6
58 540 00	Klinkenbuchse Micro 6,3 mm gold	Socket micro 6.3 mm gold	Z 401	A 5
58 541 00	Klinkenbuchse Phones 6,3 mm gold	Socket phones 6.3 mm gold	Z 601	A 5
58 542 00	Anschlussklemmen Lautsprecher 8-fach	Terminal speaker AU8-2021	Z 903	A 8
58 543 00	Anschlussbuchse Tuner Input 7Pin	Con wafer CFG1107-0101 7P	Z 906	A 8
58 544 00	Anschlussbuchse CD Input 9Pin	Con wafer CFG1109-0101 9P	Z 907	A 8
58 545 00	Anschlussbuchse Tape Input 11Pin	Con wafer CFG1111-0101 11P	Z 908	A 8
58 546 00	Ventilator	Fan cooler	22	
58 547 00	Netztrafo A74-107 BX-K	Power trans A74-107 BX-K	MAIN P/T	E 1
58 548 00	Trafo A41-097 BX-K	Trans A41-097 BX-K	SUB P/T	B 6
01 703 00	IEC Sicherung 2 A/250 V	Fuse glass 2 A/250 V	F 901	A 1

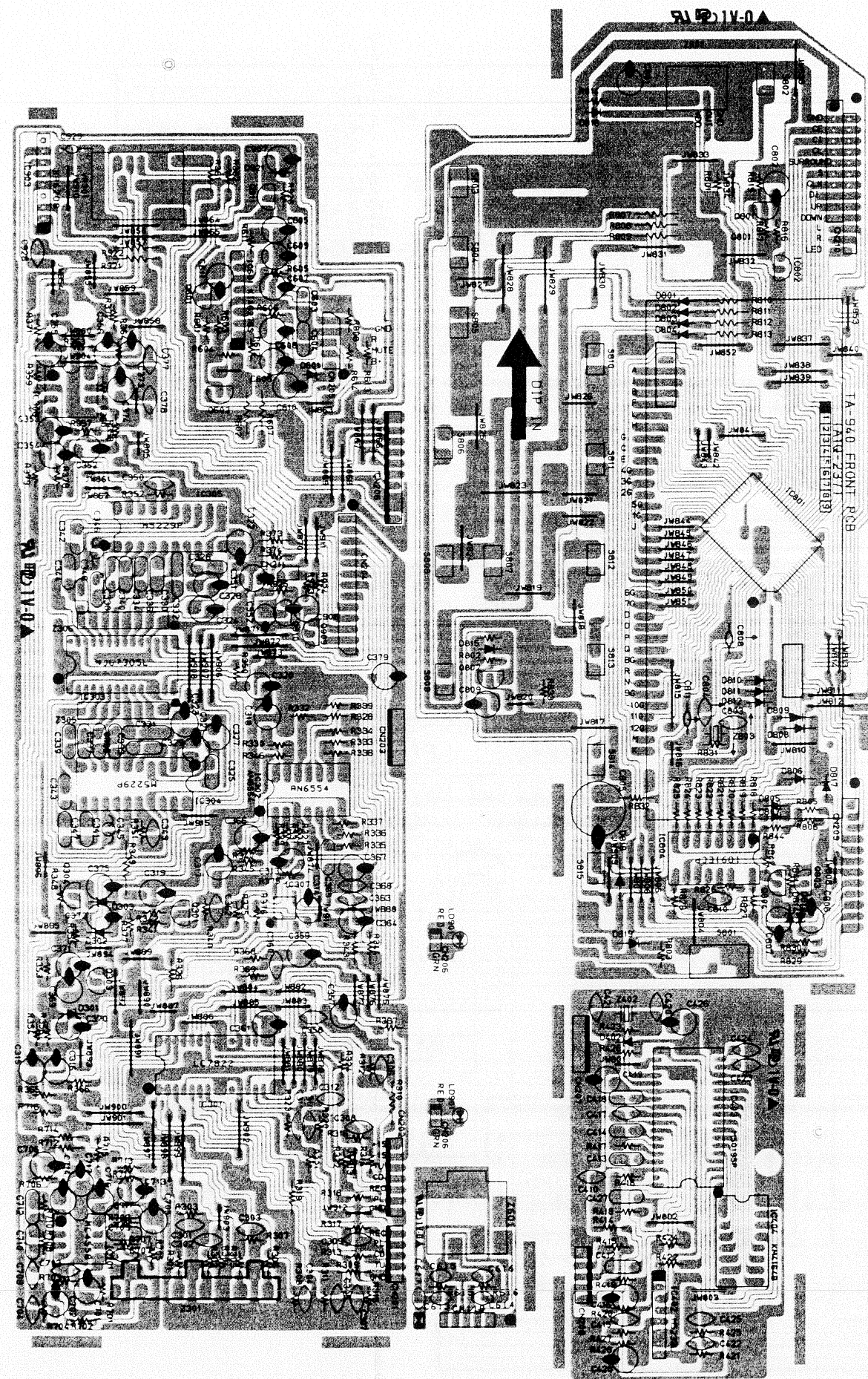
Schaltbild Verstärker AET

Schematic diagram amplifier AET

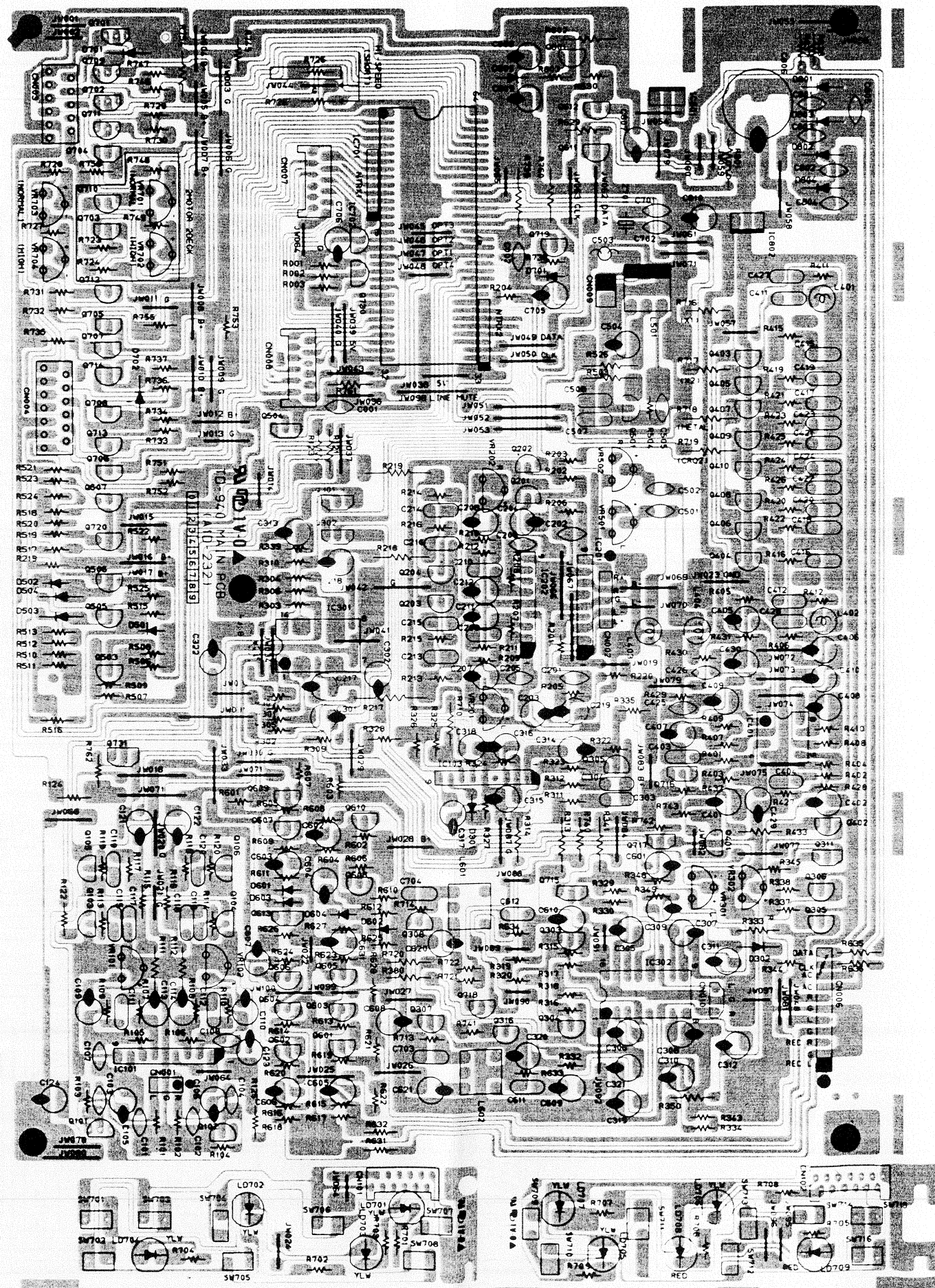
Schaltbild Frontplatte Verstärker AET
Schematic diagram amplifier front AET



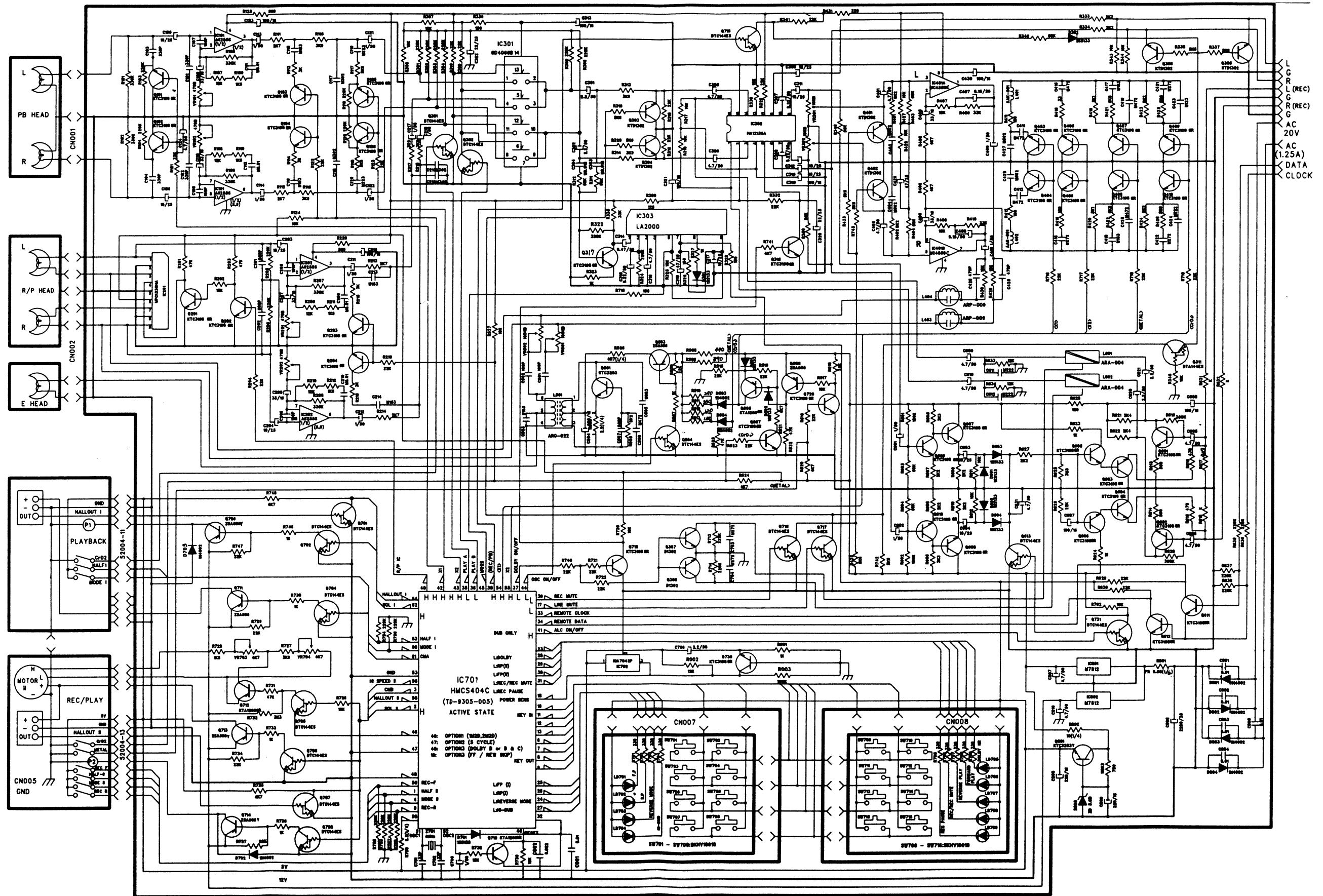
Platinendarstellung Frontplatine Verstärker AET
Amplifier front P.C.B. diagram AET



Platinendarstellung Recorderplatine DC
Deck P.C.B. diagram DC



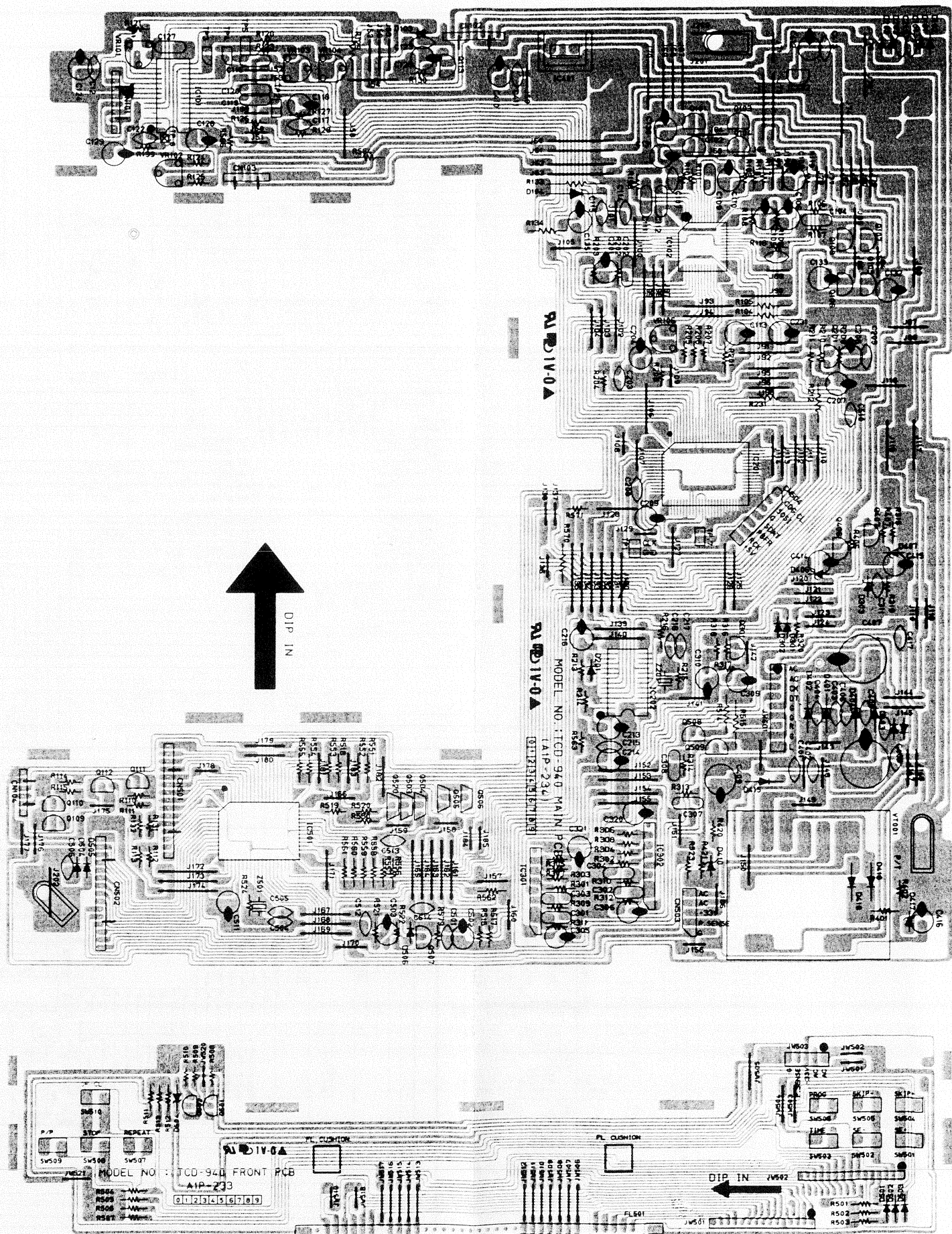
Schematic diagram deck DC



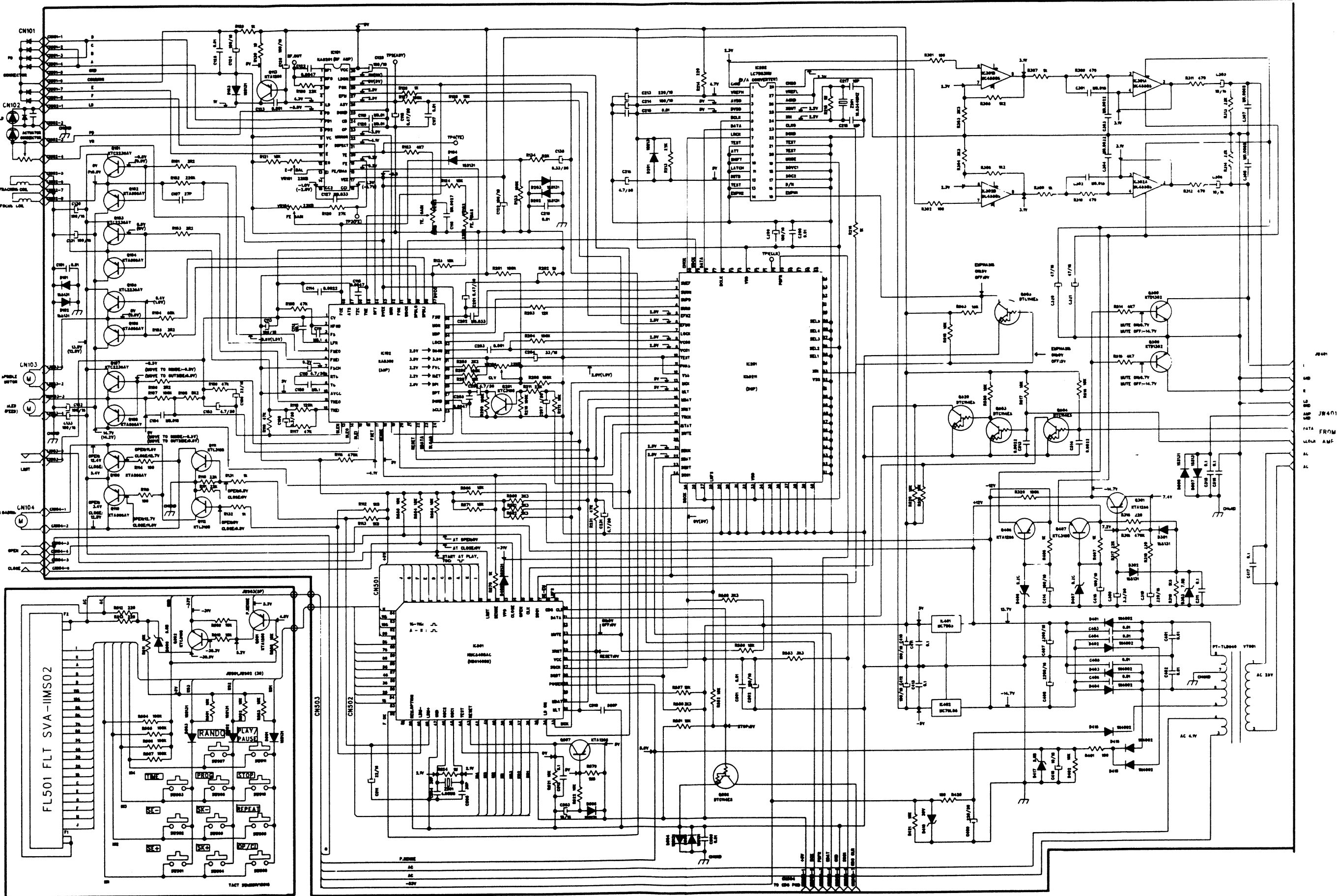
Ersatzteilliste elektrisch DC
Spare parts list electrical DC

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
58 571 00	Grundplatine Cassette	Deck main PCB		
58 572 00	IC KIA 6225 S	IC KIA 6225 S	IC 101,202	A 5
48 407 00	IC LA 9200	IC LA 9200	IC 103	C 6
58 573 00	IC UPD 1330 HA	IC UPD 1330 HA	IC 201	A 6
58 574 00	IC GD 4066 B	IC GD 4066 B	IC 301	A 4
58 575 00	IC HA 12136 A	IC HA 12136 A	IC 302	A 9
58 507 00	IC KA 4558 C	IC KA 4558 C	IC 401	A 5
58 576 00	IC TD 9305-005	IC TD 9305-005	IC 701	B 9
58 447 00	IC KIA 7042 P/F	IC KIA 7042 P/F	IC 702	A 4
58 577 00	IC KA 7812 C	IC KA 7812 C	IC 801,802	A 6
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 101-204	A 3
37 400 00	Transistor DTC 144 ES	Transistor DTC 144 ES	Q 301,302	A 3
58 448 00	Transistor KTD 1302	Transistor KTD 1302	Q 303-308	A 3
32 763 00	Transistor DTA 144 ES	Transistor DTA 144 ES	Q 311	A 2
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 316,317	A 3
58 448 00	Transistor KTD 1302	Transistor KTD 1302	Q 401,402	A 3
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 403-410	A 3
26 359 00	Transistor KTC 2120 Y	Transistor KTC 2120 Y	Q 501	A 3
57 323 00	Transistor KTA 1273 Y	Transistor KTA 1273 Y	Q 503	A 6
37 400 00	Transistor DTC 144 ES	Transistor DTC 144 ES	Q 504	A 3
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 505	A 5
58 523 00	Transistor KTC 1271 Y	Transistor KTC 1271 Y	Q 506	A 3
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 507-602	A 3
37 400 00	Transistor DTC 144 ES	Transistor DTC 144 ES	Q 603-708	A 3
57 323 00	Transistor KTA 1273 Y	Transistor KTA 1273 Y	Q 709,711	A 6
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 712,719	A 5
57 323 00	Transistor KTA 1273 Y	Transistor KTA 1273 Y	Q 713,714	A 6
37 400 00	Transistor DTC 144 ES	Transistor DTC 144 ES	Q 715-17,31	A 3
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 718,20,30	A 3
26 359 00	Transistor KTC 2120 Y	Transistor KTC 2120 Y	Q 801	A 3
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 301-502	A 2
03 211 00	Diode 1 N 4004	Diode 1 N 4004	D 503,504	A 4
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 601-701	A 2
03 211 00	Diode 1 N 4004	Diode 1 N 4004	D 702-804	A 4
34 942 00	Zenerdiode MTZ 5,6	Zenerdiode MTZ 5.6	D 805	A 3
58 578 00	LED SLR 305 YYA 47 gelb	LED SLR 305 YYA 47 yellow	LD 701-707	A 3
58 579 00	LED SLR 305 VRA 47 rot	LED SLR 305 VRA 47 red	LD 708,709	A 3
58 580 00	Filter Falle ARP 009	Coil rec trap ARP 009	L 403,404	A 5
58 581 00	Filter Oszillator ARO 022	Coil rec osc ARO 022	L 501	A 5
58 582 00	Filterspule Aufnahme ARA 004	Coil rec filter ARA 004	L 601,602	A 5
29 617 00	Trimpoti 470 Ohm	SFR 470 Ohm	VR 101-202	A 3
37 443 00	Trimpoti 10 kOhm	SFR 10 kOhm	VR 301,302	A 3
66 313 00	Trimpoti 100 kOhm	SFR 100 kOhm	VR 501,502	A 3
34 641 00	Trimpoti 4,7 kOhm	SFR 4.7 kOhm	VR 703,704	A 3
58 583 00	Widerstand Netzwerk 22 kOhm x 8	Network resistor 22 kOhm x 8	NTRX 1	A 5
58 583 00	Widerstand Netzwerk 22 kOhm x 8	Network resistor 22 kOhm x 8	NTRX 2	A 5
70 194 00	Taster SKHV 10910	Tact switch SKHV 10910	SW 701-16	A 3
37 079 00	Keramikschwingkreis CSA 4,00 MHz	Resonator CSA 4.00 MHz	Z 701	A 9
58 584 00	Verbindungskabel DC-AET (11 polig)	Wire ass'y UL1077FC-11P-500 CN 006		A 9

Platinendarstellungen CD-Spieler CD
P.C.B. diagrams CD player CD



Schaltbild CD-Spieler CD
Schematic diagram CD player CD



Abgleichanweisung Tuner AT

Alignment procedure tuner AT

MW SECTION

CIRCUIT ALIGNMENT	EQUIPMENT CONNECTION	STEP	GENERATOR FREQUENCY	TUNING (SETTING)	ADJUSTMENT
IF	AM IF Scope AM Loop ANT	1	450KHz	531KHz	T103 (AM IFT) adjust for maximum gain
Cover Range	AM Signal Generator AM Loop ANT VTVM Oscilloscope	2	531KHz (400KHz mod.)	531KHz	Adjust T203 for Maximum Gain
Tracking	AM Signal Generator AM Loop ANT VTVM Oscilloscope	3	603KHz (400KHz mod.)	603KHz	Adjust T201 for maximum gain.
		4	1404KHz (400KHz mod.)	1404KHz	Adjust TC201 for maximum gain.
		5			Repeat steps 3 & 4 two or three time.
Tuned	"	6	990KHz (400KHz mod.)	990KHz	Adjust VR102

LW SECTION

CIRCUIT ALIGNMENT	EQUIPMENT CONNECTION	STEP	GENERATOR FREQUENCY	TUNING (SETTING)	ADJUSTMENT
Cover Range	AM Signal Generator AM Loop ANT VTVM Oscilloscope	1	146KHz (400KHz mod.)	146Hz	Adjust T204 for Maximum Gain
Tracking	AM Signal Generator AM Loop ANT VTVM Oscilloscope	2	160KHz (400KHz mod.)	160KHz	Adjust T202 for maximum gain.
		3	260KHz (400KHz mod.)	260KHz	Adjust TC202 for maximum gain.
		4			Adjust steps 2 & 3 two or three time.

FM SECTION

CIRCUIT ALIGNMENT	EQUIPMENT CONNECTION	STEP	GENERATOR FREQUENCY	TUNING (SETTING)	ADJUSTMENT
IF	FM IF Scope	1	10.7MHz	87.5MHz (MONO)	Adjust T101, T102 for maximum symmetrical response.
MPX	FM MPX Signal Generator FM Signal Generator Frequency Counter Oscilloscope VTVM	2	98MHz (60dB)	98MHz	Adjust VR103 to dis- play 38.0KHz on the frequency counter.
Tuned	"	3	"	"	Adjust VR101

Ersatzteilliste elektrisch CD

Spare parts list electrical CD

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
58 469 00	Bedienteil-/Displayplatine	Front PCB	6	
58 470 00	Grundplatine	Main PCB	10	
58 471 00	IC KA 9201 D	IC KA 9201 D	IC 101	A 9
58 472 00	IC KA 8309	IC KA 8309	IC 102	B 5
58 473 00	IC KS 9211	IC KS 9211	IC 201	C 7
66 612 00	IC LC 7883 KM	IC LC 7883 KM	IC 202	C 9
58 474 00	IC KA 4558 S	IC KA 4558 S	IC 301, 302	A 5
58 475 00	IC KA 7805 C	IC KA 7805 C	IC 401	A 6
32 262 00	IC MC 79L05	IC MC 79L05	IC 402	C 3
58 476 00	IC HD 641089 FD69	IC HD 641089 FD69	IC 501	C 1
58 449 00	Transistor KTC 3205 Y	Transistor KTC 3205 Y	Q 101,3,5	A 3
57 323 00	Transistor KTA 1273 Y	Transistor KTA 1273 Y	Q 102,4,6	A 6
58 449 00	Transistor KTC 3205 Y	Transistor KTC 3205 Y	Q 107	A 3
57 323 00	Transistor KTA 1273 Y	Transistor KTA 1273 Y	Q 108-110	A 6
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 111,112	A 3
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 113,301	A 5
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 201	A 3
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 406	A 5
65 565 00	Transistor KTC 3198 GR	Transistor KTC 3198 GR	Q 407,502	A 3
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 501	A 5
32 762 00	Transistor DTC 114 ES	Transistor DTC 114 ES	Q 503-506	A 6
65 564 00	Transistor KTA 1266 GR	Transistor KTA 1266 GR	Q 507	A 5
58 448 00	Transistor KTD 1302	Transistor KTD 1302	Q 508,509	A 3
32 762 00	Transistor DTC 114 ES	Transistor DTC 114 ES	Q 520	A 6
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 101-302	A 2
37 757 00	Zenerdiode MTZ 7,5	Zenerdiode MTZ 7.5	D 303	A 2
03 211 00	Diode 1 N 4004	Diode 1 N 4004	D 401-404	A 4
60 209 00	Zenerdiode MTZ 8,2	Zenerdiode MTZ 8.2	D 406,407	A 2
40 370 00	Zenerdiode MTZ 30	Zenerdiode MTZ 30	D 410	A 2
03 211 00	Diode 1 N 4004	Diode 1 N 4004	D 415,16,18	A 4
34 942 00	Zenerdiode MTZ 5,6	Zenerdiode MTZ 5.6	D 417,504	A 3
66 773 00	Diode 1 SS 131	Diode 1 SS 131	D 501-508	A 2
40 769 00	Quarz 16,9344 MHz	Crystal 16,9344 MHz	Z 201	B 2
37 079 00	Keramikschwingkreis CSA 4,00 MHz	Resonator CSA 4.00 MHz	Z 501	A 9
29 622 00	Trimpoti 22 kOhm	SFR 22 kOhm	VR 101-4	A 3
29 623 00	Trimpoti 1 kOhm	SFR 1 kOhm	VR 106	A 3
58 477 00	Trafo A48-103L-0	Voltage trans A48-103L-0	VT 001	B 3
58 478 00	LCD Display CD SVA-11MS02	Display fluorescent SVA-11MS02	FL 501	D 1
70 194 00	Taster SKHV 10910	Tact switch SKHV 10910	SW 501-10	A 3
58 479 00	Verbindungskabel CD-AET (9 polig)	Wire assembly	CD-AET	

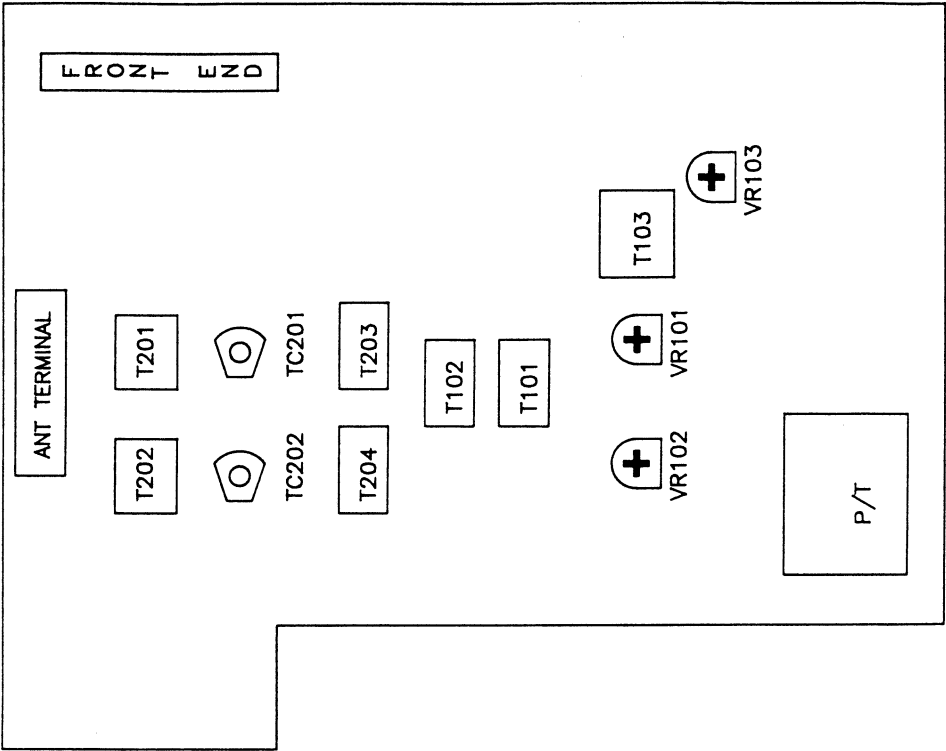
Abgleichanweisung Tuner AT

Alignment procedure tuner AT

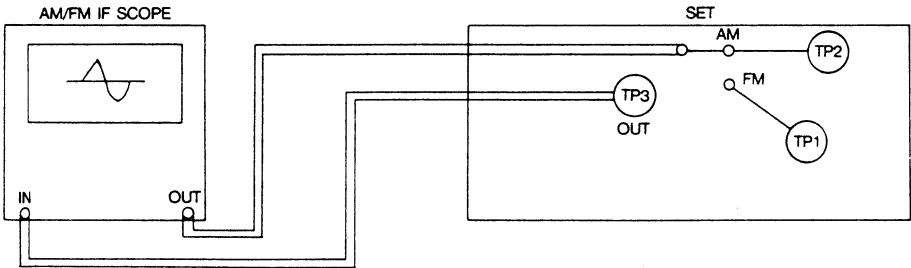
1) EQUIPMENT NEEDED

- a) AM/FM Signal Generator
- b) AM/FM IF Sweemarscope
- c) FM MPX Signal Generator
- d) VTVM
- e) Frequency Counter
- f) Oscilloscope
- g) AM Loop ANT
- h) Digital Tester

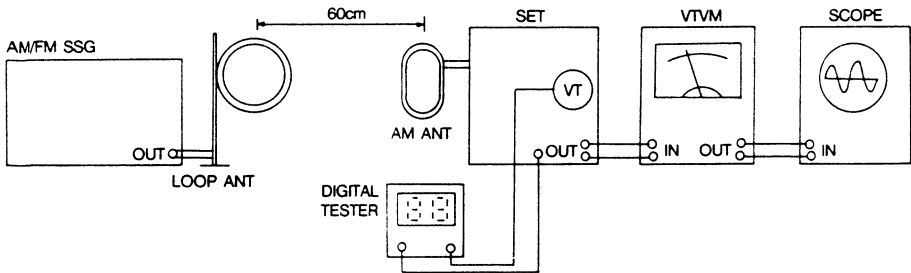
2) ADJUSTMENT POINTS



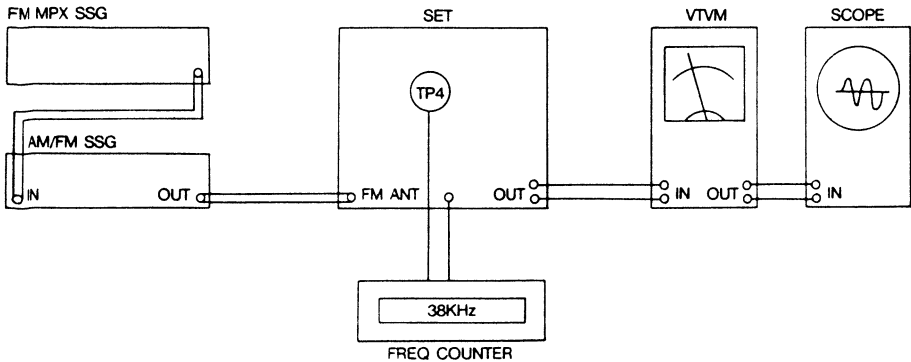
a) AM/FM IF



b) MW & LW COVER/TRACKING



c) FM TRACKING/MPX

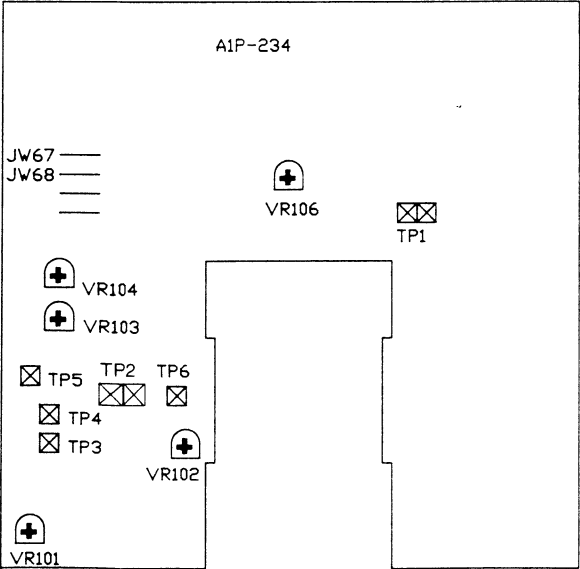


Abgleichanweisung CD-Spieler CD

Alignment procedure CD player CD

SCHRITT	ABGLEICHPUNKT	STEP	ADJUSTMENT ITEM
1. Test-CD		1. Test disc	
2. CD-Funktionsart		2. Mode	
3. Testpunkt & Abgleichbauteil		3. Test Point & Adjustment Part	
4. Ergebnis & Hinweis		4. Result & Remarks	

1	PLL	1	PLL
1. –		1. –	
2. Stop-Betrieb		2. Stop	
3. Frequenzzähler an TP 1 anschließen und beide Pins von TP 2 kurzschließen.		3. Connect Frequency Counter to Test pin TP 1 and connect both ends of TP 2.	
4. VR 106 so abgleichen, daß die Frequenz 4,3218 MHz ± 20 kHz beträgt.		4. Adjust VR 106 so that 4.3218 MHz ± 20 kHz.	



2	E-F BALANCE	2	E-F BALANCE
1. Test-CD Philips 5 A oder Sony Yeds 18		1. Test disc Philips 5 A or Sony Yeds 18	
2. Wiedergabe		2. Play	
3. VR 101, VR 102, TP 6		3. VR 101, VR 102, TP 6	
4. Oszilloskop an TP 6 und GND		4. Oscilloscope to TP 6 and GND	
* Philips 5 A – ca. 1,5 Vss		* Philips 5 A – about 1.5 Vpp	
* Sony Yeds 18 – ca. 1,4 Vss		* Sony Yeds 18 – about 1.4 Vpp	

3	FOKUS SERVO	3	FOCUS SERVO GAIN
1. Test-CD A-BEX TCD-791.		1. Test disc A-BEX TCD-791.	
2. Wiedergabebetrieb		2. Play	
3. VR 104, JW 68 + GND		3. VR 104, JW 68 + GND	
4. Oszilloskop zwischen JW 68 und GND anschließen.		4. Connect an oscilloscope between JW 68 and GND.	
* 2,4 ± 0,2 Vss		* 2.4 ± 0.2 Vpp	

4	TRACKING SERVO	4	TRACKING SERVO GAIN
1. Test-CD A-BEX TCD-791.		1. Test disc A-BEX TCD-791.	
2. Wiedergabebetrieb		2. Play	
3. VR 103, JW 67 + GND		3. VR 103, JW 67 + GND	
4. Oszilloskop zwischen JW 67 und GND anschließen.		4. Connect an oscilloscope between JW 67 and GND.	
* 0,8 ± 0,2 Vss		* 0.8 ± 0.2 Vpp	

Abgleichanweisung Cassette DC
Adjustment procedure deck DC

HINWEISE VOR DEM ABGLEICH

- 1. Reinigen und entmagnetisieren Sie vor dem Abgleich die Köpfe und die Bandführungen.
- 2. Stellen Sie den Schalter Dolby NR auf OFF.
- 3. Testcassetten: NORMAL : TDK AC-224
CrO2 : TDK AC -513
- 4. 0 dBs = 0,58 V.

PRECAUTIONS BEFORE ADJUSTMENT

- 1. Before adjustment, clean and de-magnetize the heads and tape guides.
- 2. Set the switches as follows:
Dolby NR switch OFF
- 3. Use the following recording test tapes:
NORMAL position : TDK AC-224
CrO2 position : TDK AC -513
- 4. 0 dBs = 0.58 V.

Table with 2 columns: SCHRITT, ABGLEICHPUNKT, STEP, ADJUSTMENT ITEM. It contains 5 rows of adjustment steps.

Table with 2 columns: 1, GESCHWINDIGKEIT HIGH, 1, TAPE I HIGH (x2) TAPE SPEED. It contains 5 rows of adjustment steps for high speed.

Table with 2 columns: 2, GESCHWINDIGKEIT NORMAL, 2, TAPE II NORMAL SPEED. It contains 5 rows of adjustment steps for normal speed.

Table with 2 columns: 3, ABGLEICH AZIMUT (TAPE I & II), 3, HEAD AZIMUTH ALIGNMENT (TAPE I & II). It contains 5 rows of adjustment steps for azimuth.

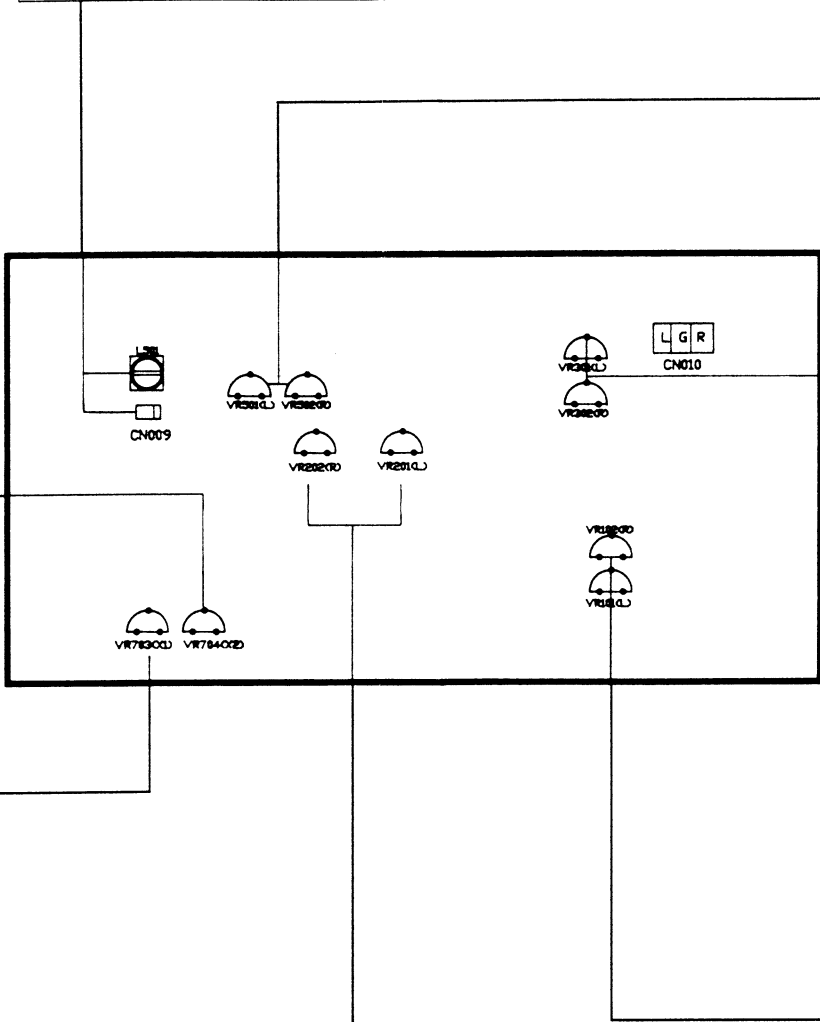
Table with 2 columns: 6, OSZILLATOR-FREQUENZ (NUR TAPE I), 6, OSC FREQUENCY (TAPE I ONLY). It contains 5 rows of adjustment steps for oscillator frequency.

Table with 2 columns: 7, TAPE I BIAS, 7, TAPE I BIAS. It contains 2 rows of adjustment steps for tape I bias.

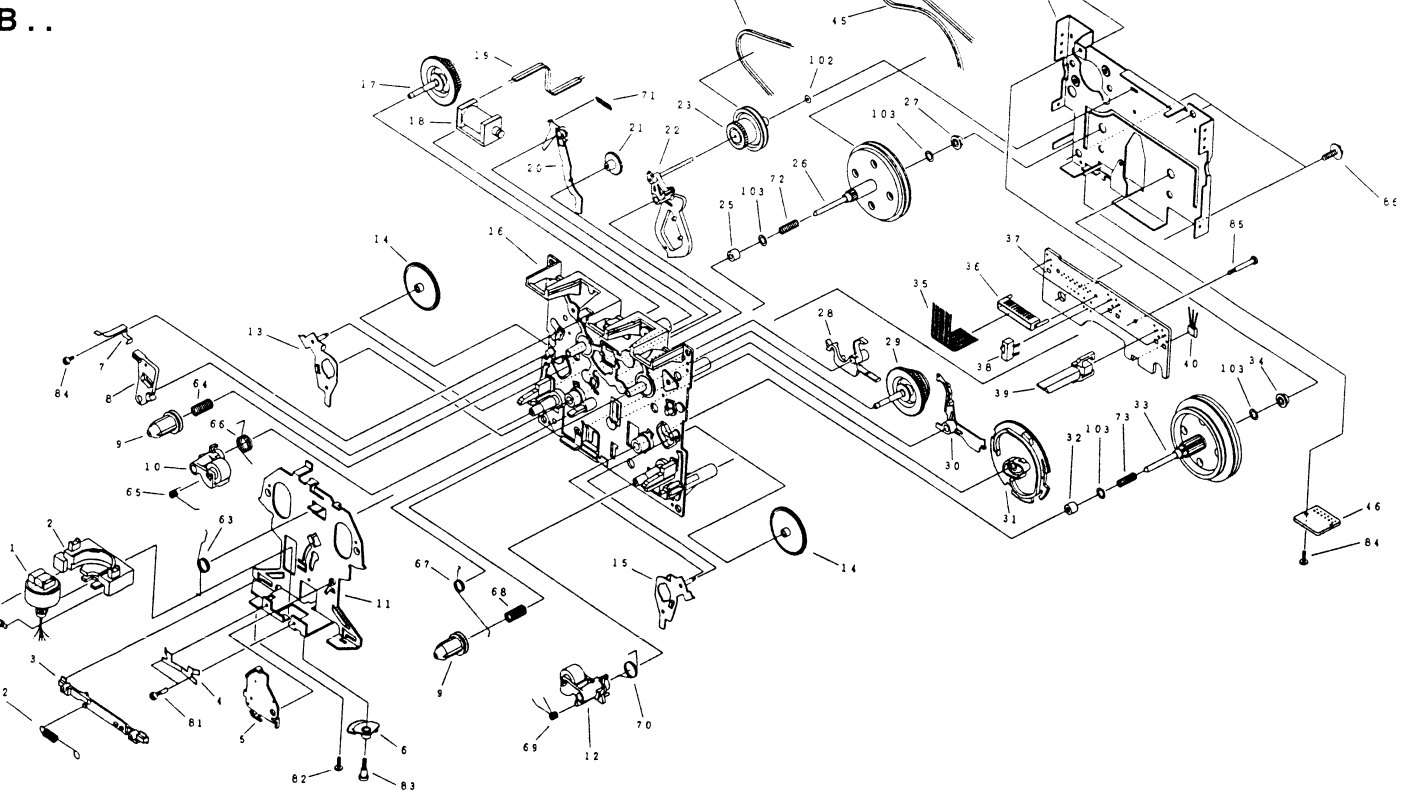
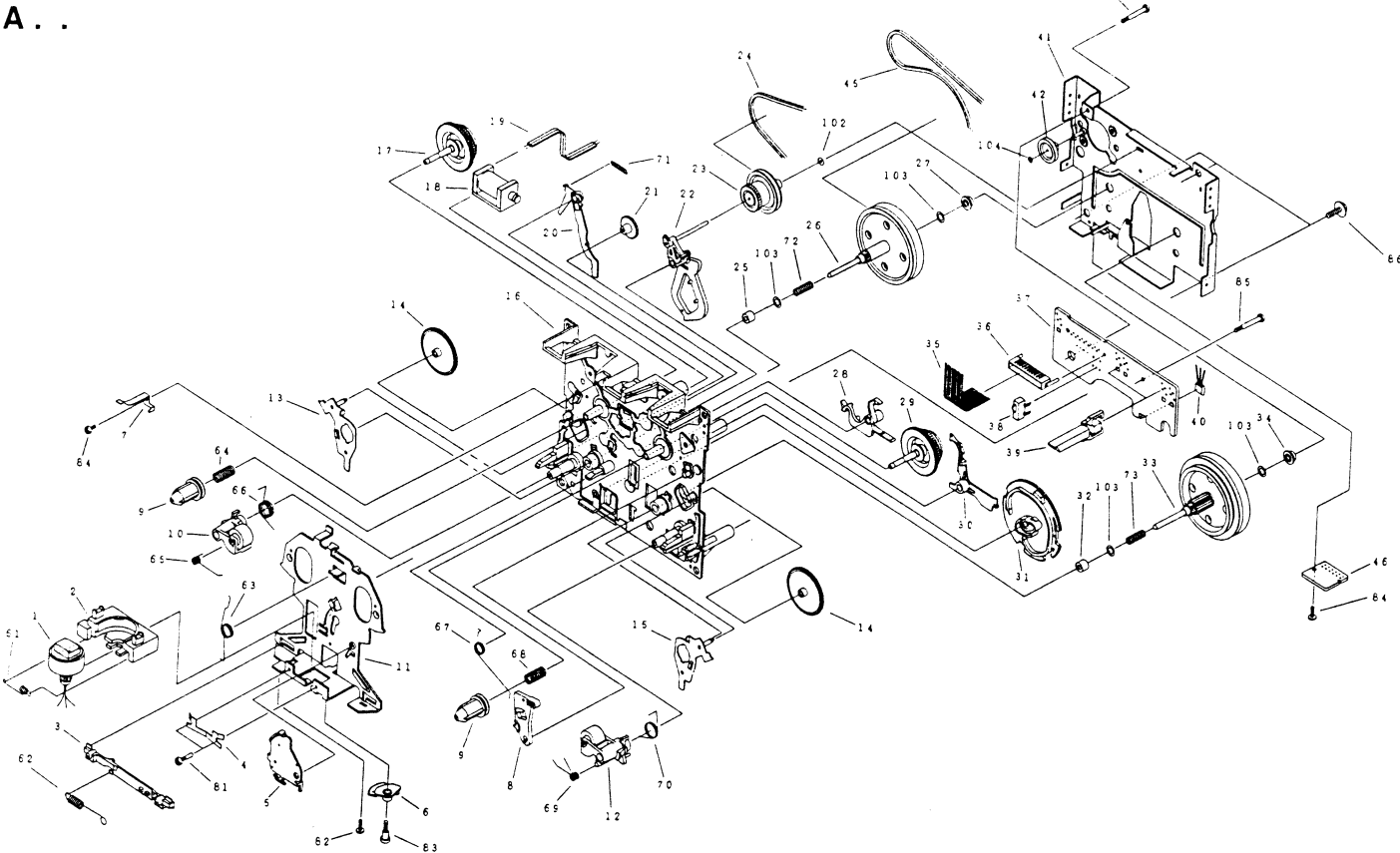
Table with 2 columns: 8, TAPE I AUFNAHMEPEGEL, 8, TAPE I REC LEVEL. It contains 5 rows of adjustment steps for tape I recording level.

Table with 2 columns: 4, TAPE II WIEDERGABEPEGEL, 4, TAPE II PB LEVEL. It contains 5 rows of adjustment steps for tape II playback level.

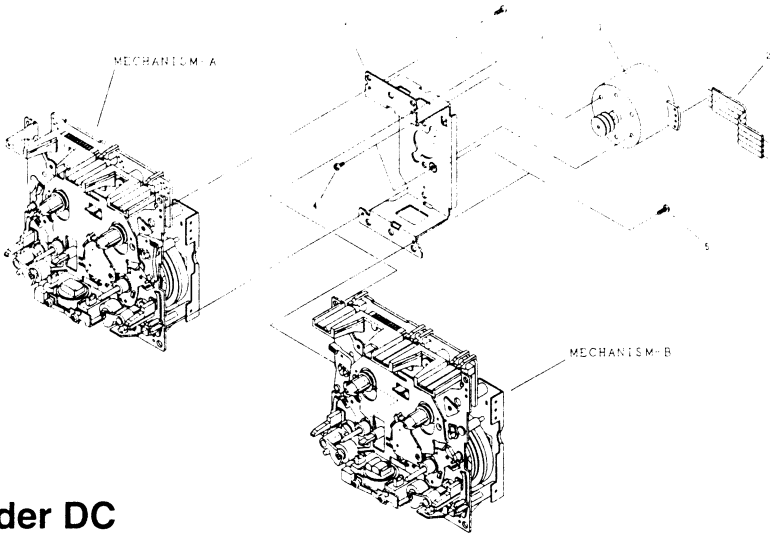
Table with 2 columns: 5, TAPE I WIEDERGABEPEGEL, 5, TAPE I PB LEVEL. It contains 5 rows of adjustment steps for tape I playback level.



Explosionsdarstellung Cassettenmechanik DC
Exploded view deck mechanism DC



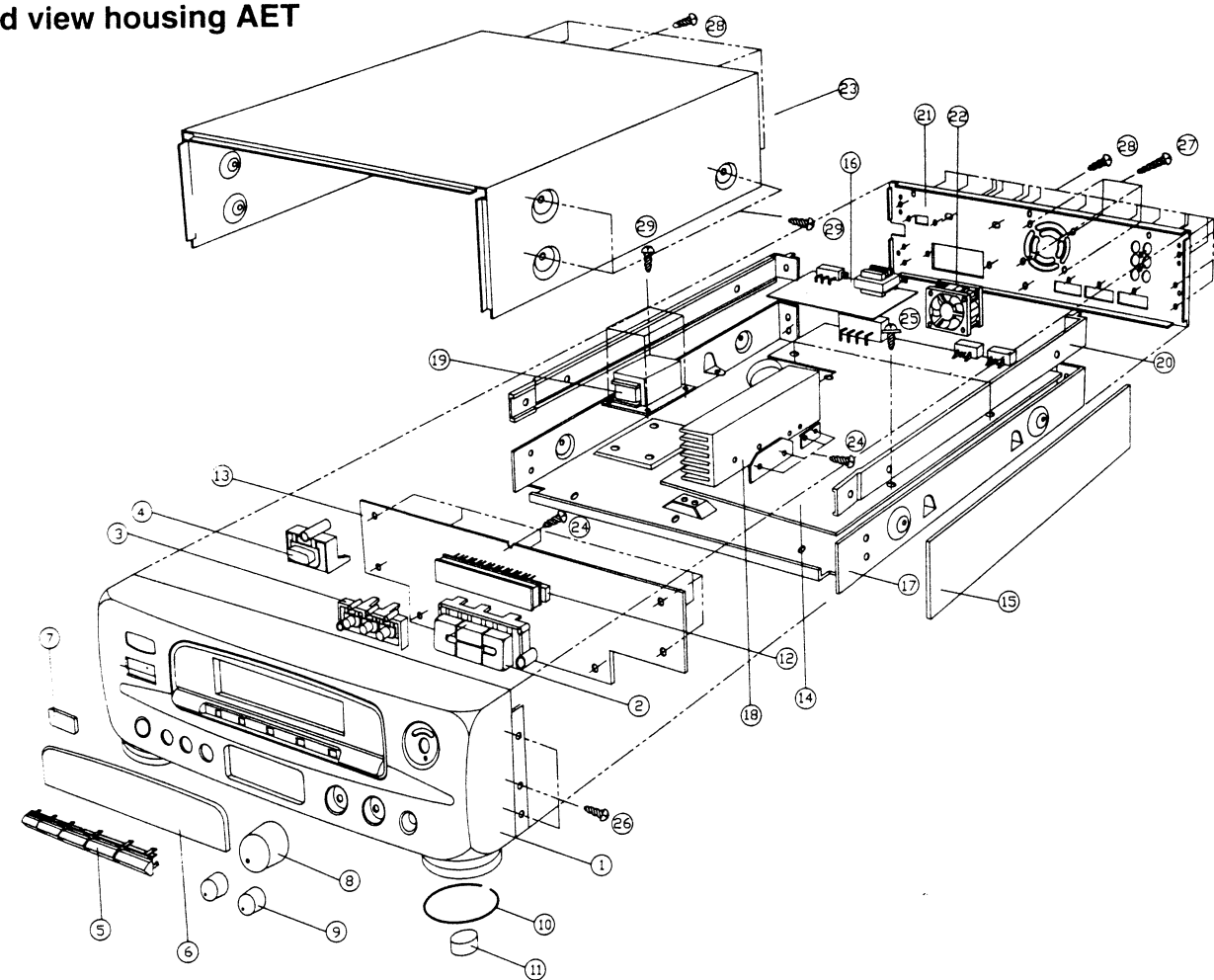
Explosionsdarstellung Recorder DC
Exploded view deck DC



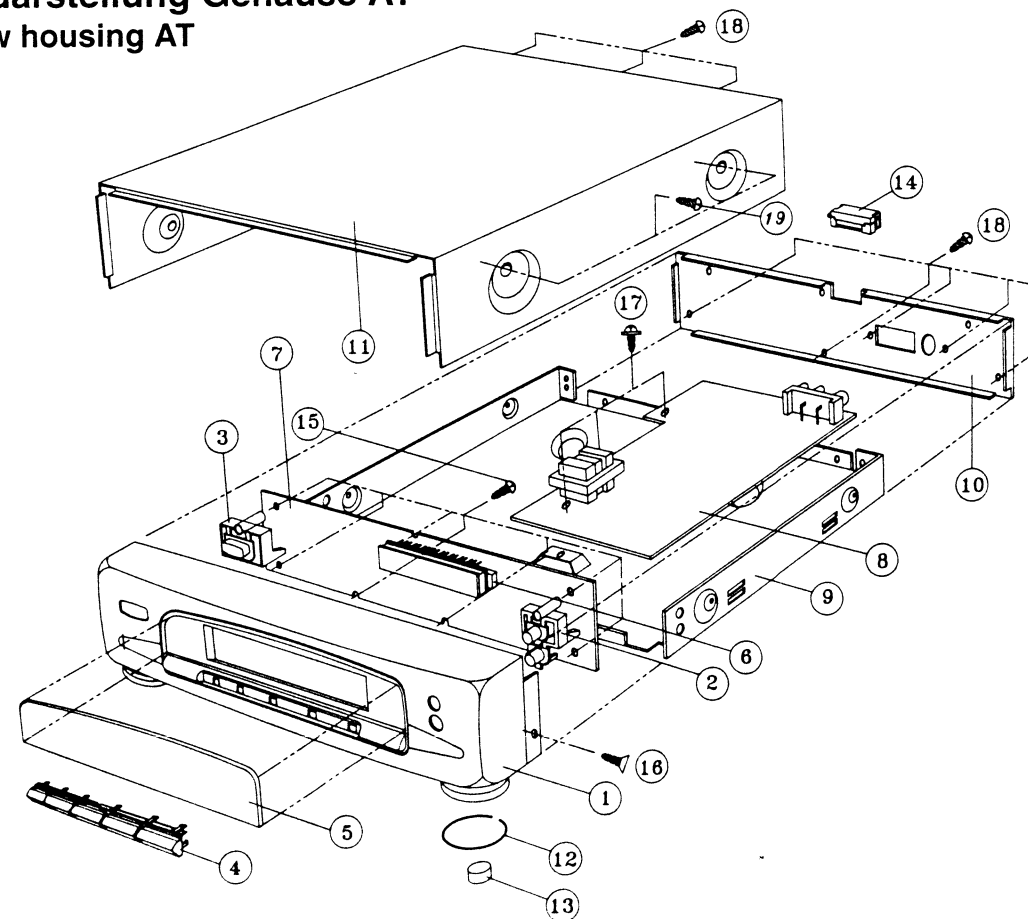
Ersatzteilliste Recorder DC
Spare parts list deck mechanism DC

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
58 585 00	Cassettenmechanik CWA-414 RR	Deck mechanism CWA-414 RR	A + B	
58 586 00	Antriebsmotor kpl. A+B	Assembly motor	1	C 9
58 587 00	Wiedergabekopf kpl.	Assembly holder head A	A 1	C 2
58 588 00	Aufnahme-/Wiedergabekopf kpl.	Assembly holder head B	B 1	D 2
57 096 00	Halterung Kopfeinheit Autoreverse	Flame head	A+B 2	A 9
57 097 00	Blattfeder Azimuth	Spring azimuth	A+B 4	A 1
65 943 00	Sperre Eject	Eject lock	A+B 8	A 2
65 973 00	Wickelteller	Cap reel	A+B 9	A 2
57 098 00	Bandandruckrolle kpl. links	Assembly pinch arm L	A+B 10	B 0
65 944 00	Bandandruckrolle kpl. rechts	Assembly pinch arm R	A+B 12	B 0
58 589 00	Zahnrad "Play"	Gear play	A+B 14	A 5
57 100 00	Zahnrad Wickelteller links	Assembly sub reel L	A+B 17	A 9
65 947 00	Zylinderspule/Zugmagnet	Solenoid	A+B 18	B 6
65 948 00	Zahnrad "Schneller Vorlauf"	Gear FF	A+B 21	A 3
65 949 00	Arm Rücklauf	Assembly arm FR	A+B 22	A 4
65 950 00	Rutschkupplung Rücklauf	Assembly pulley FR	A+B 23	A 9
65 951 00	Antriebsriemen "Schneller Rücklauf"	Belt FR	A+B 24	A 5
58 590 00	Schwungmasse kpl. links Deck A	Assembly flywheel L	A 26	B 0
58 591 00	Schwungmasse kpl. links Deck B	Assembly flywheel L2	B 26	B 4
65 952 00	Bremshebel	Arm brake	A+B 28	A 3
65 953 00	Zahnrad Wickelteller rechts	Assembly sub reel R	A+B 29	B 3
65 954 00	Hebel Kurvenzahnrad	Arm trigger	A+B 30	A 3
65 955 00	Kurvenzahnrad	Gear cam	A+B 31	A 4
58 592 00	Schwungmasse kpl. rechts Deck A	Assembly flywheel R	A 33	B 4
58 593 00	Schwungmasse kpl. rechts Deck B	Assembly flywheel R2	B 33	B 6
65 968 00	Kontaktplatine Cassette	P.C. board	A+B 37	B 2
65 969 00	Mikroschalter "Play"	Switch mode	A+B 38	A 9
65 970 00	Mikroschalter	Switch leaf	A+B 39	A 8
34 460 00	IC DN 6851, Hall IC	Hall IC DN 6851 A	A+B 40	B 0
58 594 00	Pulley Motor	Pulley	A 42	A 1
58 595 00	Antriebsriemen Deck A	Belt main A	A 45	A 4
58 596 00	Antriebsriemen Deck B	Belt main B	B 45	A 4
57 103 00	Feder Kopfeinheit	Spring	A+B 61	A 2
58 597 00	Feder Umschalthebel	Spring	A+B 62	A 2
65 959 00	Feder Eject Sperre	Spring	A+B 63	A 2
65 960 00	Feder Wickelteller links	Spring	A+B 64	A 1
57 104 00	Feder BA-Rolle links	Spring	A+B 65	A 7
57 093 00	Feder BA-Rolle kpl. rechts	Spring	A+B 66	A 1
65 962 00	Feder	Spring	A+B 67	A 1
65 961 00	Feder Wickelteller rechts	Spring	A+B 68	A 1
65 963 00	Feder BA-Rolle rechts	Spring	A+B 69	A 1
57 105 00	Feder BA-Rolle kpl. links	Spring	A+B 70	A 7

Explosiondarstellung Gehäuse AET
Exploded view housing AET



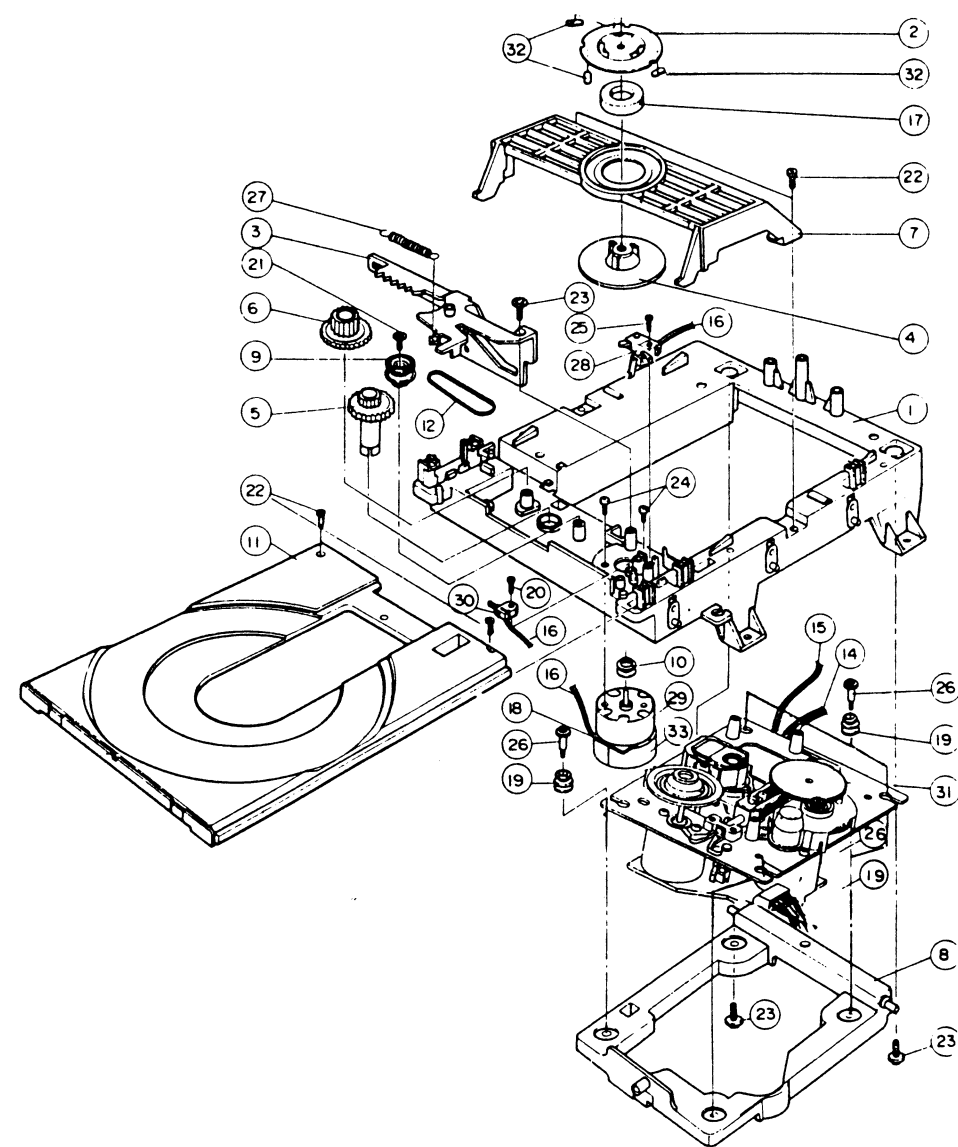
Explosionsdarstellung Gehäuse AT
Exploded view housing AT



Ersatzteilliste Gehäuse
Spare parts lists housing

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
AET				
58 492 00	Frontblende AET	Panel front	1	B 7
58 493 00	Gehäusedeckel	Chassis top	23	C 1
58 494 00	Gehäuserückwand	Chassis back	21	B 3
58 432 00	Ring Gehäusefuss	Foot ring	10	A 1
58 433 00	Gummi Gehäusefuss vorn	Foot cushion	11	A 0
58 495 00	Abdeckblende Amplifier Display	Window amp	6	A 7
58 496 00	Abdeckblende IR Empfänger	Filter remote	7	A 4
58 497 00	Tastenblock (4) Equalizer	Knob EQ (up)	2	A 5
58 498 00	Tastenblock (3) Display,Memo,EQ-Character	Knob mode	3	A 4
58 499 00	Knopf Netztaste	Knob power	4	A 4
58 500 00	Tastenblock (5) Equalizer	Knob function	5	A 8
58 501 00	Drehknopf Volume (ohne LED)	Knob volume	8	A 8
58 502 00	Drehknopf Balance, Micro Level	Knob balance	9	A 7
58 503 00	Kabeldurchführung Netz	Bush power cord		A 8
58 441 00	Fernbedienungsgeber RC 112/MS C 286	Remote control assembly RC 1		
AT				
58 429 00	Frontblende AT	Panel front	1	B 6
58 430 00	Gehäusedeckel	Chassis top	11	B 1
58 431 00	Gehäuserückwand	Chassis back	10	B 5
58 432 00	Ring Gehäusefuss	Ring foot	12	A 1
58 433 00	Gummi Gehäusefuss vorn	Cushion foot	13	A 0
58 434 00	Abdeckblende Display Tuner	Window tuner	5	A 7
58 435 00	Tastenblock Tuning (2)	Knob tuner	2	A 4
58 436 00	Knopf Preset scan	Knob band	3	A 4
58 437 00	Tastenblock Band, Memory, Preset	Knob function	4	A 4
58 438 00	Kabeldurchführung	Bush 10P cord	14	A 2
58 439 00	Rahmenantenne	AM loop antenna		A 9
58 440 00	Halterung Rahmenantenne	Holder ant loop		A 2
DC				
58 560 00	Frontblende DC	Panel front	1	A 6
58 632 00	Gehäusedeckel	Chassis top	11	C 1
58 561 00	Gehäuserückwand	Chassis back	12	B 3
58 432 00	Ring Gehäusefuss	Foot ring	2	A 1
58 433 00	Gummi Gehäusefuss vorn	Foot cushion	3	A 0
58 562 00	Cassettenfach A rechts	Deck door R	4	A 8
58 563 00	Cassettenfach B links	Deck door L	5	A 8
58 564 00	Blende Cassettenfach B links	Window door L	8	A 4
58 565 00	Blende Cassettenfach A rechts	Window door R	9	A 4
60 883 00	Rastmechanik Cassettenfach	Push catch cassette door		B 0
58 566 00	Dämpfrad Cassettenfach	Gear damper cassette		
58 567 00	Feder Cassettenfach rechts	Spring cassette door right		
58 568 00	Feder Cassettenfach links	Spring cassette door left		
58 569 00	Tastenblock Cassette rechts (8)	Knob deck R	6	A 7
58 570 00	Tastenblock Cassette links (8)	Knob deck L	7	A 7
58 438 00	Kabeldurchführung	Bush 10P cord		A 2

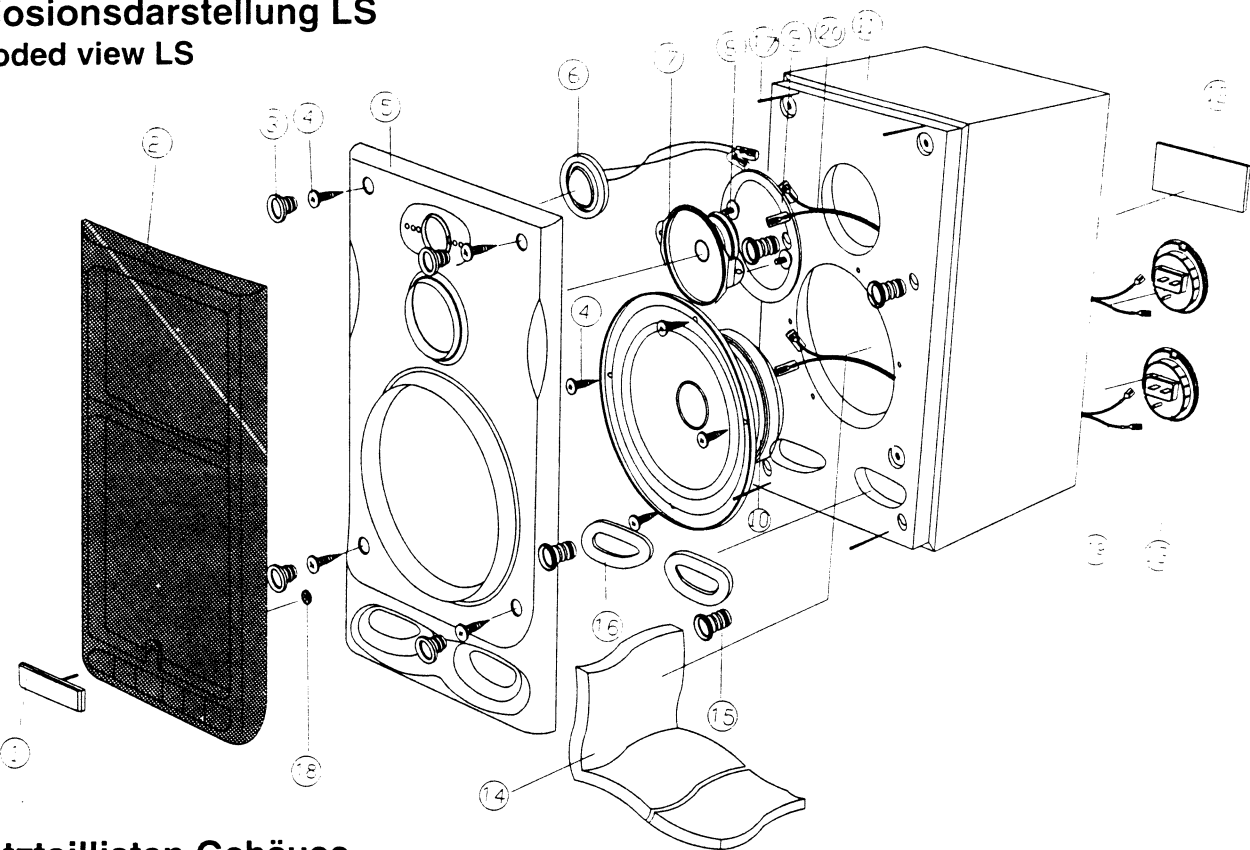
Explosionsdarstellung CD-Mechanik CD
Exploded view CD mechanism CD



Ersatzteilliste CD-Mechanik CD
Spare parts list CD mechanism CD

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
58 480 00	CD Mechanik kpl. CMS-M3A	CD mechanism CMS-M3A	15	
58 481 00	Niederhalter kpl. mit Magnet	Chuck assembly	2+4+7+ 17+22+32	B 1
58 482 00	Zahnrad weiss	Gear A wht	5	A 5
58 483 00	Zahnrad schwarz	Gear B pom blk	6	A 5
58 484 00	Schlitten CD (single)	Tray	11	A 9
58 485 00	Gummi Dämpfung	Rubber CD	19	A 1
58 486 00	Schraube CD Dämpfung 2,6 x 10,5	Shaft CD FEFZY 2.6 x 10.6	26	A 1
58 487 00	Feder Zahnschiene	Spring cam	27	A 3
58 488 00	Mikroschalter MLS-1	Switch leaf MLS-1	28	A 6
58 489 00	Motor DC RF-500TB-12560	Motor DC RF-500TB-12560	29	B 7
58 490 00	Mikroschalter L SPPB-11	Switch micro L SPPB-11	30	A 6
58 491 00	Rafoc-Einheit CMS-V30 A kpl. mit Laser	Deck-CD CMS-V30A	31	E 9

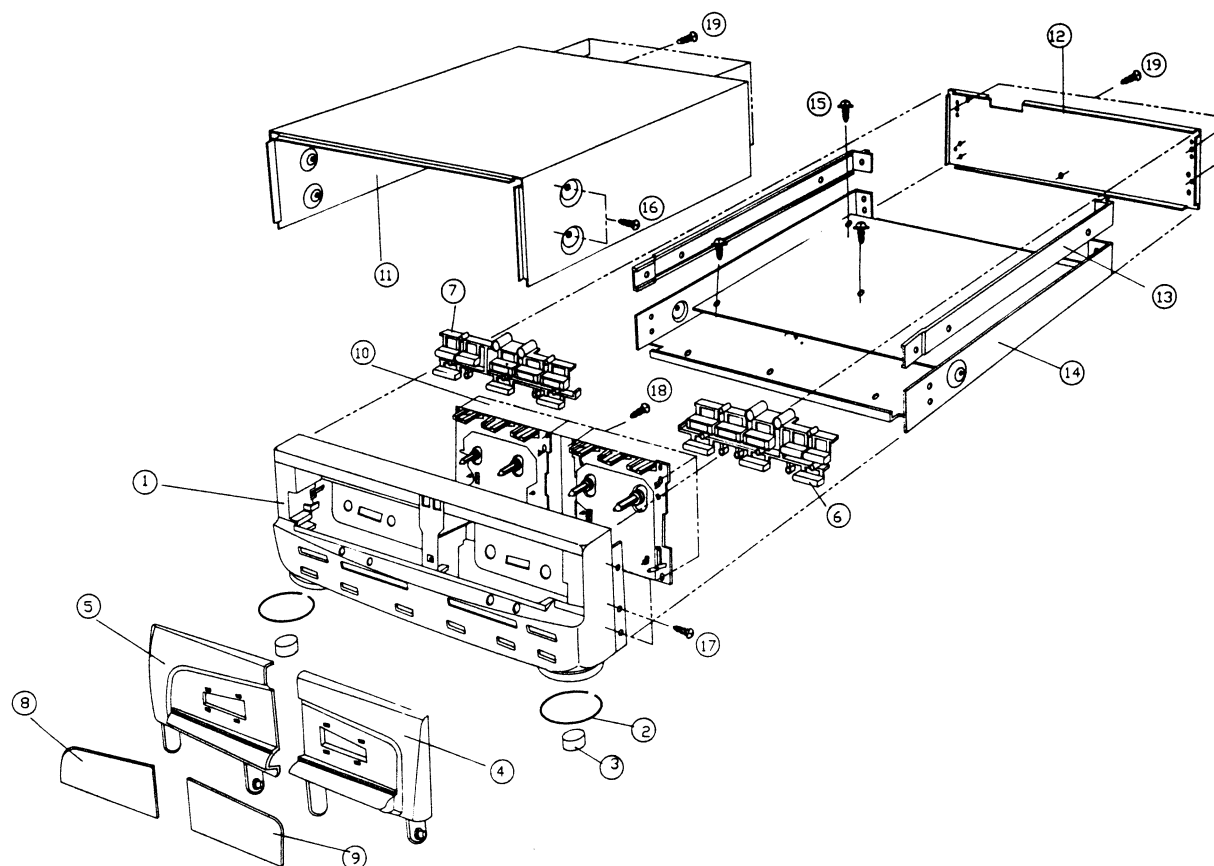
Explosionsdarstellung LS
Exploded view LS



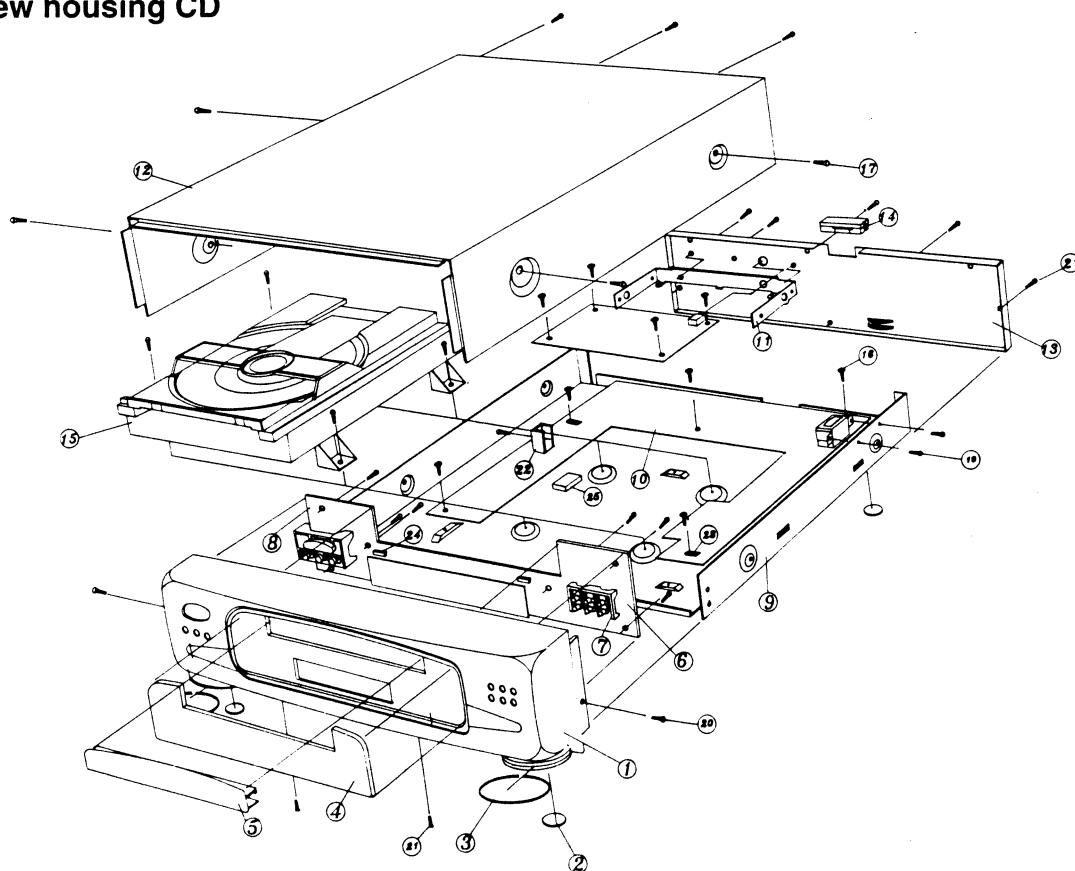
Ersatzteillisten Gehäuse
Spare parts lists housing

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
CD				
58 463 00	Frontblende CD	Panel front	1	B 3
58 430 00	Gehäusedeckel	Chassis top	12	B 1
58 464 00	Gehäuserückwand	Chassis back	13	B 3
58 433 00	Gummi Gehäusefuss vorn	Foot cushion	2	A 0
58 432 00	Ring Gehäusefuss	Foot ring	3	A 1
58 465 00	Abdeckblende Display CD	Window CDP	4	A 7
58 466 00	Blende Schlitten	Door CD	5	A 8
58 467 00	Tastenblock Skip, Search, Prog, Time	Knob skip	7	A 4
58 468 00	Tastenblock Op/Cl, Play, Stop, Repeat	Knob play	8	A 4
58 438 00	Kabeldurchführung	Bush 10P cord	14	A 2
LS				
68 837 00	MS C 286 LS kpl einzel	MS C 286 Speaker box ass'y		
58 549 00	Emblem Schneider	Logo Badge	1	
58 550 00	Bespannrahmen	Frame net	2	
58 551 00	Gummihaaken	Rubber hook	3	
58 552 00	Frontblende Gehäuse	Cover front	5	
58 553 00	L-spr HT Piezo PT-20T-C	Speaker piezo	6	
58 554 00	L-spr MT CT-57F06T-C	Speaker tweeter	7	
58 555 00	L-spr TT TAU-16W03014	Speaker woofer	10	
58 556 00	Gehäuse Rückwand	Cabinet speaker	11	
58 557 00	Anschlussklemmen LS 2-fach rund	Terminal spaker	13	
58 558 00	Haken (Kegel)	Hook taper	15	
58 559 00	Sicherungsstöpsel Emblem	Bush badge	18	

Explosionsdarstellung Gehäuse DC Exploded view housing DC



Explosionsdarstellung Gehäuse CD Exploded view housing CD



WICHTIGER HINWEIS/IMPORTANT NOTE

Der integrierte CD-Spieler arbeitet mit unsichtbarem Laserlicht.

Nicht in den Strahl blicken und sich nicht dem Strahl aussetzen!

Vorsicht, Laserstrahlung im Inneren des Gerätes!

Zur Vermeidung von Strahlungsschäden darf das Gehäuse nur von qualifiziertem Fachpersonal geöffnet werden.

Informationsetikett auf der Geräterückseite (siehe Bild).

The integrated CD-Player works with invisible laser-light.

Do not look into this beam and don't abandon yourself to radiation.

Attention, laser-radiation also inside of the unit!

To avoid damages of radiation unit should be opened only by qualified service personnel.

Information label on the rear of unit (see picture).

VAROITUS!

Suojakotelo ei saa avata. Laite sisältää laseriodin, joda lähettää näkymättömää silmille vaarallista lasersäteilyä.

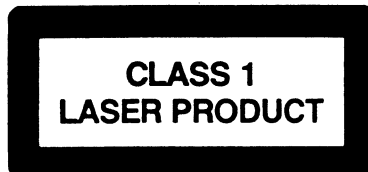
VARO!

Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.



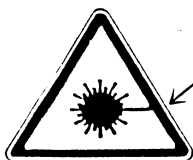
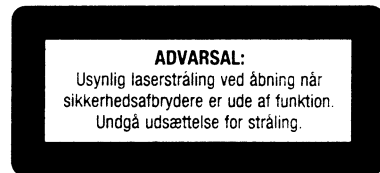
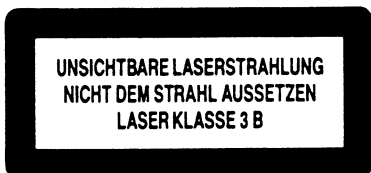
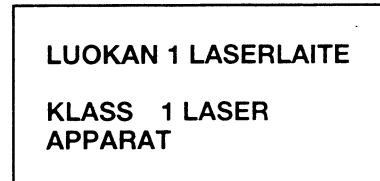
Laser $\lambda = 780 \text{ nm}$
 $P_{\text{max}} = 0,5 \text{ mW}$

Warnetikett in dem Plattenfach (siehe Bild).



Laser $\lambda = 780 \text{ nm}$
 $P_{\text{max}} = 0,5 \text{ mW}$

Warning label in record-drawer (see picture).



Austrittsöffnung für Laserstrahlung
Discharge orifice for Laser radiation

Hinweis für Original-Etikett:

Schrift und Umrandung schwarz, Untergrund gelb.

Indication for original label:

Letters and surrounding black, background yellow.

Bitte bei Ersatzteilbestellung die genaue Bezeichnung und **Ident-Nr. (siehe Typenschild)** des Gerätes sowie Bestell-Nummer und Positions-Nummer des Ersatzteils angeben.

For ordering of spare parts please state exact description and **ident.-no. of unit (see silver rating label on the backside of unit)** as well as part no. and position no. of required spare parts.

Benutzen Sie:



*317298 #

oder

Telefax: 08245/513 26

Technische Änderungen vorbehalten.
Technical modifications reserved.

Herstellung: **HL** Holzmann Druck, 86825 Bad Wörishofen

Der Umwelt zuliebe!



Diese Serviceanweisung
wurde auf chlorfrei gebleichtem
Papier gedruckt.